# **Batta Data Package Checklist**

Company:	Batta Labo	ratories, Inc.		EPA ID#:	DE 004
EPA CASE#:	RFP 279			LAB PROJ#:	L6888F
EPA SDG#:	FB-A-030414	<u> </u>		Date Received:	MULTIPLE
Total Units:	27			Revision #:	INITIAL
Data Package T	ype: [ PLM _COC	Particle Size  PCM [	] Moisture	Sample Matrix	:: ☐ Bulk
X	QA Data	X	Bench She	et	X MISC.
Case Narrative:	-	,	,		
Weston Solutions information are of forms. There are 7402 (TEM) meth	s, Inc. Date of documented e total of 27 a nods. Of the	on the client provid Imbient air samples 27 units, only 18 we	and sample cor led COC(s), EPA received for ar ere analyzed. A	nditions, together Region 2 SDG for nalysis using the N and the rest were	RFP# 279 through with sample matrix rms and/or custody NOSH 7402 and NIOSH either overloaded or egion 2 DC-1 for details.
by PCM was subr however, the rep unit by this meth	mitted prior to porting limit of od. The limit	o this package. The of the method is bas	e detection limi sed on 0.5 fiber s fibers given in	t defined by the i	package of NIOSH 7400 method is is not defined; se it is the basic counting s not apply due to the
concept. The angerid openings and air concentration sensitivity calculates detected by TEM	alytical sensi alyzed at a gi i based on w ation, but als i multiplied b	tivity is calculated b ven air volume colle hich are calculated	ased on 1 singlected in the field only according to the field only according to the field on the	e fiber observed id. However, the ling to the variable bestos fibers det	7402 are two different for a given number of reporting limit and the es used for analytical ected vs. none-asbestos refer to the Data
of the hardcopy appropriate for e organized with so narratives), SDG Communications	report package ach analysis ections in the Cover Sheet, Miscellanes	ge in PDF format, p NADES EDD does following manner: Summary Report o ous, Nomenclature,	lus EPA Region not apply to thi EPA Region 2 I f Analysis, EPA Analytical Met	2 EDDs or NADES s package. The h DC-2 Form, Batta Region 2 DC-1 Fo hod, Counting Ru	ardcopy data package is Check List (w/ case
		uiries to: Bo Li, Ph. I 713; or at E-mail: bo			ware Industrial Park, 6
Signature	·:	Jul:	Title:	Mana	ager
Print Name	( ::	Bo Li	Date:	03/26/	2014

# SUMMARY REPORT OF ANALYSIS

 $\mathbf{BY}$ 

NIOSH 7402, ISSUE 2: 15 AUGUST, 1994



BATTA LABORATORIES, INC. A Certified MBE Company

Delaware industrial Park - 6 Garfield Way - Newark, DE 19713-5817 (302) 737-3376 - Fax (302) 737-5764

Web: www.battaenv.com E-mail: battaenv@battaenv.com E.P.A. LAB ID# DE004



A.LH.A./NLLAP #100448

NVLAP #101032

## SAMPLE SUMMARY REPORT

Revision#: 1

COC#:

2-030514-142736-0021

Page 1 of 1

Batch #:

5243

3/4/2D14

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

Destricted Condition

General Information

BLI Project #: L6888F

Date Sampled:

Project Name: WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279

Sampling Location: 0029-0122

Date Received:

Report Date:

4/7/2014

**Analytical Data** 

Sampled by: CLIENT

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

3/6/2014

Primary Filter Area (mm²): Date Prepped: 3/6/2014

2nd Filter Area (mm²): Prepped By: AY

N/A

Media: MCE

Secret Model: #UEM (UUGXII) Magnification #19000

Grid Area (mm²): 0.0094 Date Analyzed: 3/6/2014 Analyzed Bur AV

ate i repped.	O O LOT		rephen by			ate Analyzeo:	3/0/2014		Anaiyzed By: AY				
	Sample ID and	Prep Inform	nation			Anaiytica	al Data		Results				
Lab Sample	Field	Sample	Dilution	Air Volume (L)	# of Grid Openings	Total # of Asb. by TEM	Asbestos	Target	Reported	Reported Air	Reported		
Number	Sample Number	QA Type- Prep Type	Factor	PCM Fields	Area Analyzed (mm²)	Asb. Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration	Filter Density		
	Number			PCM Fibers	Total # of TEM PCME Fibers	floc by PCM	Detected	(f/cc)	(f/cc)	(f/cc)	(f/mm²)		
		FiELD		0	40	0.0	NON-						
786565	FB-A-030414		1	100	0.3760	0.091	DETECTED	0.00040	N/A	N/A	< 0.63694		
		DIRECT		1.0	0.0	N/A	DETECTED		•				
		FIELD		0	40	0.0	NON-						
786566	LB-A-030414		1	100	0.3760	0.091	DETECTED	0.00040	N/A	N/A	< 0.63694		
		DIRECT		1.0	0.0	N/A	DETECTED				•		
	P0006-AS01-	FIELD		3646.8			NDT		NOT	NOT	NO.		
786567	030414	SAMPLE		.0	0.0000		ANALYZED	0.00040	ANALYZED	NOT	NOT		
				0.0		N/A	ANAL (ALL)		ANAL IZED	ANALYZEÐ	ANALYZE		
	P0006-AS02- 030414	FIELD		3634.2			NDT		NOT	NOT	***		
786568		SAMPLE		0	0.0000		– ANALYZED	0.00040	ANAL YZED	ANALYZED	NOT		
		:		0.0		N/A	71111121222		ANAL 12ED	MINALIZED	ANALYZE		
	P0006-AS03-	FIELD		3632.4			NOT	NO	NOT	NOT	NOT		
786569	030414	SAMPLE		0	0.0000		ANALYZED	0.00040	ANALYZED	ANALYZED	ANALYZEI		
				0.0		N/A	7.1012.222		ANACIZED	AIRALTZED	ANALTZEL		
	P0047-A\$01-	FIELD		3639.6	40	1.0							
766570	030414	SAMPLE	1	100	0.3760	0.077	СН	0.00₽40	0.00028	0.00026	2.64576		
		DIRECT		27.0	13.0	0.004							
	P0047-AS02-	FIELD		3596.4	40	1.0							
786571	030414	SAMPLE	1	100	0.3760	0.250	СН	0.00040	0.00028	<b>0.00065</b>	7.96178		
		DIRECT		25.0	4.0	0.003							
	P0047-AS03-	FIELD		3652.2	40	0.0	NON-						
786572	030414	SAMPLE	1	100		< 0.07	DETECTED	0.00040	0.00028 <	0.00037	< 3.52442		
		DIRECT		41.5	7.5	0.006	52.201LD						

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite 2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of aabestos fibers-indirect-transfer transmission electron microscopy metrod. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.

4. This summary report may not included all information submitted by clients. Furthermore, Batta will not be responsible for results that are due to improper sample collection and inaccurate data provided by clients.

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Web: www.battaenv.com E-mail: battaenv@battaenv.com E.P.A. LAB ID# DE004



A.LH.A./NLLAP #100448

NVLAP #101032

## SAMPLE SUMMARY REPORT

Instituments- Scoomwood and toos of Arginianion report

Revision#: 1

COC#:

2-030614-131636-0023

Page 1 of 1

Batch #:

5248

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

**General Information** 

BLI Project #: L6888F

Project Name:

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279

Sampling Location: 0029-0122

Deli Alea nomini

Date Sampled:

3/5/2014

Date Received:

3/7/2014 Report Date: 4/7/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Primary Fifter Area (mm²):

2nd Filter Area (mm2):

Media: MCE

nothbreaktarobacce

Det Window- none m

Grid Area (mm²): 0.0094

Date Prepped: 3/7/2014

Prepped By: AY

Sampled by:

Date Analyzed: 3/7/2014

Analyzed By: AY

	Sample ID and	Prep Inform	nation			Analytic	al Data				Results		
	Field	Sample		. Air Volume (L)	# of Gnd Openings	Total # of Asb. by TEM	Asbestos	Target	Reported	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Reported Air	Reported	
Lab Sample Number	Sample	QA Type- Prep Type	Dilution Factor	PCM Fields	Ids Area Analyzed Asb. Fiber Ratio Mineral Type Se	Asb. Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration		Filter Density	
	Number			PCM Fibers		(f/cc)	(f/cc)		(f/cc)	(f/mm²)			
	P0050-AS01-	FIELD		3657.6	40	0.0	NON-					***	
786584	030514	SAMPLE	1	100	0.3760	< 0.056	DETECTED	0.00040	0.00028	<	0.00014	< 1.34466	
		DIRECT		19.0	9.0	0.003							
	P0050-AS02-	FIELD		3753	40	0.0	Nes						
786585	030514	SAMPLE	1	100	0.3760	< 0.100	NON-	0.00040	0.00027	<	0.00018	< 1.78344	
	030514	DIRECT		14.0	5.0	0.002	DETECTED						
	mino-0 + 000	FIELD		3778.2	40	0.0		<del></del>					
786586	P0050-AS03- S	SAMPLE	1	100	0.3760	< 0.059	NON-	0.00040	0.00027	<	0.00015	< 1,49869	
		DIRECT		20.0	8.5	0.003	DETECTED	3				,	

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Pieese use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

\*NOTE:

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crociddite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-Indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution deliaits.

3. Some samples may be analyzed, and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details,

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SAMPLE SUMMARY REPORT

E.P.A. LABID# DE004



A.LH.A./NLLAP #100448

NVLAP #101032

Revision#: 1

COC#:

2-030714-125911-0026

Page 1 of 1

Batch #:

5247

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

Operational Condition

DetaWindowel0008min

General Information

BLI Project #:

SeopolAccial (IEMADOS CI Magnification (9)000

Sampling Location: 0029-0122

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279 Protect Name: Date Sampled:

3/6/2014

Sampled by: CLIENT

Date Received:

3/8/2014

4/7/2014

Normal

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD.report.

Primary Filter Area (mm²):

2nd Filter Area (mm²):

N/A

Media: MCE

Grid Area (mm²): 0.0094

Report Date:

Date Prepped: 3/17/2014

Prepped By; JX

Date Analyzed: 3/8/2014

Analyzed By: JX

Sample ID and Prep Information **Analytical Data** Results Air Volume Total # of Asb. by # of Grid Openings Target (L) TEM Reported Reported Air Reported Field Sample Asbestos sab Sample Dilution Sample QA Type-PCM Fields Mineral Type Asb. Fiber Ratio Sensitivity Sensitivity Number Factor (mm²) Total # of TEM Concentration Filter Density Number Prep Type Detected PCM Fibers ffec by PCM (f/cc) (f/cc) (f/mm²) PCME Fibers (ffcc) 3805.5 FIELD 10 40 P0009-AS01-786629 SAMPLE 0.3760 AC 0.00840 0.00027 63 0.016 0.00033 3.28787 030614 DIRECT 100.0 61.5 0.020 FIELD 3748.1 40 0.0 NON-P0009-AS02-786630 SAMPLE 100 0.3760 0.016 0.00040 0.00027 0.00017 1.67067 DETECTED 030614 DIRECT 60.0 30.5 0.010 FIFI.D 3783.3 40 0.0 P0009-AS03 NON-SAMPLE 786631 66 0.3760 0.015 0.00040 0.00027 0.00038 2.96943 030614 DETECTED DIRECT 100.0 32.5 0.020 FIELD 4024.8 P0069-AS01-NDT NDT NDT 786632 SAMPLE OVERLDAD 0 0.0000 0.00040 030614 ANALYZED ANALYZED ANALYZED 0.0 N/A FIFI D 3927.3 P0069-AS02-NOT NOT NOT 786633 SAMPLE 0 0.0000 OVERLOAD 0.00040 030614 ANALYZED ANALYZED ANALYZED N/A 0.0 FIFI D 3896.1 P0069-AS03-NOT NOT NDT SAMPLE 786634 Û 0.0000 **OVERLDAD** 0.00040 030614 ANALYZED ANALYZED ANALYZED 0.0 N/A

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this repon to replace all versions previously received.

detected in TEM. Asb. (esbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Analyst(s):

\*NOTE:

1. LA: Libby Amphibote; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophylite; AM: Amosite

2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.

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6. This summary report does not consultute endorsement by NVLAP and/or any other U.S. government agencies. The test data penain only to the items tested. No assumptions or conclusions should be made to materials or samples not analyzed

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers Reviewed By:



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A.I.H.A./NLLAP #100448

NVLAP #101032

## SAMPLE SUMMARY REPORT

Revision#: 1

COC#:

2-031014-111810-0028

Page 1 of 1

Batch #:

5248

3/7-8/2014

Test Method: NIDSH 7402 - Asbestos by TEM Instruments: Scope Model: JEM 1000Xill. Magnification: 19,000: 90 perational Condition (4)

Prep Method: NIDSH 7402 - Asbestos by TEM

**General Information** 

BLi Project #: L6888F

Analyzer: Kevex Det Area: 10 mm

Protect Name:

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279

CLIENT

N/A

Date Received: 3/11/2014

Sampling Location: 0029-0122

Report Date:

4/7/2014

**Analytical Data** 

Date Sampled:

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Primary Filter Area (mm²):

2nd Filter Area (mm²):

Media: MCE

Grld Area (mm2): 0.0094

Date Prepped: 3/11/2014

Prepped By: JX

Sampled by:

Date Analyzed: 3/11/2014

Analyzed By: JX

	Sample ID and	Prep Inform	nation			Analytica	al Data			Results		
	Field	Sample		Air Volume (L)	# of Grid Openings	Total # of Asb. by TEM	Asbestos	Target	Reported	Reported Air	Reported	
Lab Sample Number	Sample	QA Type-	Dilution Factor	PCM Fields	Area Analyzed (mm²)	Asb. Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration	Filter Density	
	Number	Prep Type		PCM Fibers	Total # of TEM PCME Fibers	f/cc by PCM	Detected	(f/cc)	(f/cc)	(f/cc)	(f/mm²)	
		FIELD		0	40	0.0	NON-					
786873	FB-A-030814	SAMPLE	1	100	0.3760	< D.091	DETECTED	0.0D040	N/A	NA	< 0.63694	
		DIRECT		1.0	0.0	N/A	DETECTED					
	P0D08-AS01-	FIELD		3686.4					NOT	NOT		
786874	030814	SAMPLE		0	0.D000		OVERLOAD	0.00040	NOT	NOT	NOT	
	030614			0.0		N/A			ANALYZED	ANALYZED	ANALYZED	
	P0008-AS02-	FIELD		3636					NOT	NOT		
786875	D30814	SAMPLE		0	0.0000		OVERLOAD	0.00040	NOT	NOT	NOT	
	D30014			0.0		N/A			ANALYZED	ANALYZED	ANALYZED	
	P0008-AS03-	FIELD		3688.2					NDT	NOT	NOT	
786876	030814	SAMPLE		0	0.0000		OVERLOAD	0.00040	ANALYZED	NOT	NOT	
	030014			0.0		N/A	·		ANALYZED	ANALYZED	ANALYZED	
	P0057-AS01-	FIELD		3650.4	40	1.0						
786877	030714	SAMPLE	1	100	0.3760	0.200	AN	0.00040	0.00028	0.00078	7,38854	
	030/14	DIRECT		29.0	5.0	0.004					*	
	P0057-A\$02-	FIELD		3733.2	40	1.0						
7888 <b>7</b> 8	030714	SAMPLE	1	100	0.3760	0.091	CH	0.00040	0.00027	0.00030	2.89519	
	030/14	DIRECT		25.0	11.0	0.003	•					
	P0057-AS03-	FIELD		3697.2	40	0.0	NON-					
786879	030714	SAMPLE	1	100	0.3760	< <u>0.125</u>	- DETECTED	0.00040	0.00028	< 0.00043	< 4,14013	
	030714	DIRECT		26.0	4.0	0.003	DETECTED		100			
	P0058-AS01-	FIELD		3686.4	40	0.0	NON-					
786880.	030714	SAMPLE	1	100	0.3760	< 0.03	DETECTED	0.00040	0.00028	< 0.00010	< 0.99522	
	030714	DIRECT		25.0	16.0	0.003	DETECTED		•			
	P0058-AS02-	FIELD		3636	40	0.0	NON-					
786881	030714	SAMPLE	1	100	0.3760	< 0.50	- DETECTED	0.00040	0.00028	< 0.00182	< 17.19745	
	030714	DIRECT		27.0	1.0	0.004	DETECTED	<u> </u>				
	P0058-AS03-	FIELD		3602.9	40	0.0	NDN-					
786882	030714	SAMPLE	1	100	0.3760	< 0.05		0.00040	0.00028	< 0.00017	< 1.57719	
	030714	DIRECT		26.0	10,5	0.004	DETECTED		<u> </u>			

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Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

NOTE:

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crockolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISO 13794:1999(E): Ambiant air-Determination of asbestos fibers-Indirect-transfer transmission efectron microscopy method. Refer to sample prep sheets for dilution details

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# FIELD COC

DateShipped: 3/5/2014

RFP# 279

Contact Name: Joel Petty

Contact Phone: 732-570-4943

Lab# Sample # **Analyses** Matrix Collected Sampl Container Numb Preservativ Vol Start\_Ti Volume Lab QC Stop\_Ti e Time Cont Units me me FB-A-030414 Asbestos PCM (NIOSH 7400) 3/4/2014 08:14 1 MCE None N Liters 8:14:00 786565 and TEMINIOSHV74020 Cassette AM Asbestos PCM (NIOSH 7400) LB-A-030414 Air 3/4/2014 08:13 MCE None Lifers N 8:13:00 566 and TEM (NIOSH 7402) Cassette ΑM P0006-AS01-Asbestos PCM (NIOSH 7400) | Air 3/4/2014 16:00 1 MCE None 3646.8 Liters 10:00:00 4:00:00 St 030414 and TEMI(NIOSH 7402) Cassette PM AM P0006-AS02-Asbestos PCM (NIOSH 7400) Air 3/4/2014 16:00 MCE None 3634.2 Liters જ્ય N 10:00:00 4:00:00 and TEM (NIOSH7402) 030414 Cassette AM PM P0006-AS03-Asbestos PCM (NIOSH 7400) | Air 3/4/2014 16:00 1 MCE 3632.4 SLS None Liters Ν 10:00:00 4:00:00 030414 and TEM (NIOSH7402) Cassette AM PM P0047-AS01-Asbestos PCM (NIOSH 7400) Air 3/4/2014 17:15 MCE None 3639.6 Liters N 11:15:00 5:15:00 22.10 and TEMI(NIOSH 7402) 030414 Cassette ΑM PM Asbestos PCM (NIOSH 7400) Air P0047-AS02-3/4/2014 17:15 MCE None 3596.4 Liters 11:15:00 5:15:00 Ν 571 030414 and (LEM (NIOSH 7402) \$ Cassette AM PM Asbestos PCM (NIOSH 7400) Air and TEM (NIOSH 7402) P0047-AS03-3/4/2014 17:15 MCE None 3652.2 Liters N 11:15:00 5:15:00 572 030414 Cassette AM PM

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos. Huertas@WestonSolutions.com. Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltulons.com

SAMPLES TRANSFERRED FROM **CHAIN OF CUSTODY #** 

items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
alleamples alfanelyses	Just Peter RST2	3/5/14 16cm	Bonnie Mei BAMA UBURARRES	3KI146 0922	
_					,

RFP# 279 DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402

03/26/2014

Page 1 of 1

USEPA

DateShipped: 3/6/2014 RFP# 279

### **CHAIN OF CUSTODY RECORD**

Site #: 0029 - 0122 Contact Name: Joei Petty Contact Phone: 732-570-4943 No: 2-030614-131636-0023

Cooler#: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample#	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti
78 <del>48</del> 4	P0050-AS01- 030514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/5/2014	16:30	1	MCE Cassette	None	3657.6	Liters	N	10:30:00 AM	4:30:00 PM
25/2	P0050-AS02- 030514	and TEM (NIOSE 7402)	Air	3/5/2014	16:30	1	MCE Cassette	None	3753	Liters	N	10:30:00 AM	4:30:00 PM
1,28%	P0050-AS03- 030514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/5/2014	16:30	1	MCE Cassette	None	3778.2	Liters	N	10:30:00 AM	4:30:00 PM
						·							
	· · · · · · · · · · · · · · · · · · ·									······································			
	100	6	-							-			
$\angle$	MIM												<del></del>
					<u>                                     </u>								

Special instructions: 24 Hour TAT Preliminary Data.	Email results to Carlos.Huertas@WestonSolutions.com,
Joei.Petty@WestonSolutions.com, and S.Sumbalv@	WestonSoltulons.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY#

Items/Reason	Reilnquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all sumples	wellety RST2	3/6/14 1430	Bonni The Barna USBORATORIE	31714 0948	
,					

USEPA

DateShipped: 3/7/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty

Contact Phone: 732-570-4943

No: 2-030714-125911-0026

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

TEM 7402

Lab#	Sample #	Analyses	Matrix	Collected	Sampi e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_TI me
186629	P0009-AS01- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3805.45	Liters	N	9:00:00 AM	3:10:00 PM
30	P0009-AS02- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3748.1	Liters	N	9:00:00 AM	3:10:00 PM
31	P0009-AS03- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3783.25	Liters	N	9:00:00 AM	3:10:00 PM
32	P0069-AS01- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassatte	None	4024.8	Liters	N	10:15:00 AM	4:45:00 PM
33	P0069-AS02- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	3927.3	Liters	N	10:15:00 AM	4:45:00 PM
¥34	P0069-AS03- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	3896.1	Liters	N	10:15:00 AM	4:45:00 PM
	1 On The												
Tu	W. J.												

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
allsamples	guel Peta RST2	3/7/4 1400			
			Bo L	03/08/14	

03/26/2014

BATT LABORATORIES, INC

RFP# 279 DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402

DateShipped: 3/10/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-031014-111810-0028

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lá	ab#	Sample #	Analyses	Matrix	Collected	Sampi e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
78	૯૪.ડ	FB-A-030814	Asbestos PCM (NIOSH 7400) end(TEM (NIOSH 7402)	Air	3/8/2014	08:10	1	MCE Cassette	None		Liters	N	8:10:00 AM	8:10:00 AM
T	874	P0008-AS01- 030814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3686.4	Liters	N	8:30:00 AM	2:30:00 PM
	278	P0008-AS02- 030814	Asbestos PCM (NIOSH 7400) end TEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3636	Liters	N	8:30:00 AM	2:30:00 PM
	876	P0008-AS03- 030814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3688.2	Liters	N	8:30:00 AM	2:30:00 PM
	877	P0057-AS01- 030714	Asbestos PCM (NIOSH 7400) and EM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3650.4	Liters	N	9:00:00 AM	3:00:00 PM
1	818	P0057-AS02- 030714	Asbestos PCM (NIOSH 7400) and EM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3733.2	Liters	N	9:00:00 AM	3:00:00 PM
	879	P0057-AS03- 030714	Asbestos PCM (NIOSH 7400) and EMI(NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3697.2	Liters	N	9:00:00 AM	3:00:00 PM
T	880	P0058-AS01- 030714	Asbestos PCM (NIOSH 7400) and JEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3686.4	Liters	N	10:15:00 AM	4:15:00 PM
	881	P0058-AS02- 030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	18:15	1	MCE Cassette	None	3636	Liters	N	10:15:00 AM	4:15:00 PM
J	882	P0058-AS03- 030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3602.88	Liters	N	10:15:00 AM	4:15:00 PM
7	nel	Potta												

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos. Huertas@WestonSolutions.com, Joel. Petty@WestonSolutions.com, and S. Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Orgenization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all analyses	Wel Petry RST2	3/10/14 1230.	Bonnie Mer BATTA UAROKATORE	Upi 9 4/1/18	

RFP# 279 DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402

03/26/2012

	•	

# **Batta Data Package Checklist**

Company:	Batta Labo	ratories, Inc.			EPA ID#:		DE	004
EPA CASE#:	RFP 279A			-	LAB PROJ	l#:	L6888G	
EPA SDG#:	DG#: MULTIPLE  Jnits: 73				Date Rece	ived:	MULTIPLE	
Total Units:	73				Revision #	<b>!</b> :	INITIAL	
Data Package Ty	<u> </u>	Particle Size	_	loisture TEM	Sample i		∏Air □	] Bulk ] Water
X	coc	X		Prep Shee		,	∟ Narrative	EDD
X	QA Data	Х		Bench She			e below)	MISC.
Case Narrative:						31,100		_ 141100.
This data package Solutions, Inc. Da were documente these 73 units, 62 overloaded durin details.	ate of sample d on the clie 2 were analy	e receiving and so nt provided COC zed by the NIOS	ample (s), EP, 1 7400	conditions, A Region 2 method. 1	together w SDG forms a he rest wer	ith samp ind/or cu e deeme	ole matrix in ustody form ed in the lat	nformation ns. Of ns to be
This data package Counting Rules, D detection and on	ata Validatio	on and Calculatio	n sect	ion of this p				
Starting with this the fiber density and non-asbestos density in consist reports were revidata validation se	was reported s fibers). Ho ency with th sed and incl	d as the density of wever, this was of the fiber concentra uded in the Misc	of the thange thange ation r ellane	total TEM f d to the fib eported. A ous Section	bers detector er density e s such, all proposed of this data	ed (i.e. ti quivaler eviously package	he sum of a nt to the PC rissued NIC e. Please re	sbestos M fiber OSH 7402
The data package report package in analysis will be shintegrity. NADES sections in the focase narratives), Miscellaneous, Dand Analytical Beused in this packakind delivered at	n PDF format nipped in a la EDD does no llowing man SDG Cover S ata Validatio nchsheets. age are refer	plus EPA Region ater time at the co ot apply to this p ner: EPA Region heet, Summary F on and Calculation Reviewers who a rred to the Nome	2 EDE omple ackage 2 DC-2 Report n, Real re not nclatu	os or NADES etion of the e. The hard ! Form (the of Analysis nalysis, Sta familiar wi	EDDS which entire projet loopy data polinventory sl , EPA Region and Analyst thasbestos	hever ap ct for th ackage in neet), Ba n 2 DC-1 sis, Calib termino	opropriate f e purpose o s organized atta Check L Form, Field orations and logy and ab	or each of data with ist (w/ I COC, I Routines, obreviations
Please direct all t Garfield Way, Ne	echnical inq wark, DE 19	uiries to: Bo Li, Pl 713; or at E-mail:	h. D., I bo.li@	Batta Labor Dbattaenv.	atories, Inc., com.	Delawa	re Industria	ıl Park, 6
Signature		Mi		Title:		Manage	er	
Print Name	:(	Bo Li		Date:		04/08/20	14	

# **SUMMARY REPORT OF ANALYSIS**

 $\mathbf{BY}$ 

NIOSH 7402, ISSUE 2: 15 AUGUST, 1994



### BATTA LABORATORIES, INC.

A Certified MBE Company

Delaware Industrial Park - 6 Garfield Way - Newark, DE 19713-5817 (302) 737-3376 - Fax (302) 737-5764 Web: www.battaenv.com E-mail: battaenv@battaenv.com

SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVLAP #101032

Noma

Revision#: 1

COC#:

2-031114-112802-0031

3/10/2014

Page 1 of 1

Batch #:

Project Name:

Date Sampled:

5252

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A

Sampled by:

Instituments - Score Models - JEM 1000Xdb Magnifications 49x100

CLIENT

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

Onlinional condition

General Information

L6888G BLI Project #:

Sampling Location: 0029-0122

Date Received: 3/12/2014 Report Date:

4/5/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Primary Filter Area (mm²):

2nd Filter Area (mm2):

Media: MCE

Grid Area (mm2): 0.0094

Date Analyzed: 3/12/2014 Date Prepped: 3/12/2014 Prepped By: JX Analyzed By: JX Sample ID and Prep Information Analytical Data Results Air Volume Total # of Asb. by # of Grid Openings (L) TEM Target Reported Reported Air Field Sample Reported Asbestos Lab Sample Dilution Area Analyzed QA Type-Sample PCM Fleids Asb. Fiber Ratio Mineral Type Sensitivity Sensitivity Concentration Fliter Density Number Factor /8mm2 Number Prep Type Detected Total # of TEM PCM Fibers f/cc by PCM OME Fiber (f/cc) (f/cc) (f/mm²) (f/cc) FIELD 3619.6 P0008-AS04-NOT NOT NOT SAMPLE 786919 0 0.0000 OVERLOAD 0.00040 031014 ANALYZED ANALYZED ANALYZED n N/A FIELD 3724.2 P0006-AS05-NOT NDT NOT SAMPLE 786920 0 0.0000 **OVERLDAD** 0.00040 031014 ANALYZED ANALYZED ANALYZED N/A n FIFLD 3765,6 P0008-AS06-NOT NOT NOT 786921 SAMPLE 0.0000 OVERLOAD 0 0.00040 031014 ANALYZED ANALYZED ANALYZED O N/A FIELD 3646.8 40 n P0076-AS01-NON-SAMPLE 786922 1 100 0.3760 0.040 0.00040 0.00028 0.00007 0.66242 031014 DETECTED DIRECT 13 12.5 0.002 FIELD 3645 40 0 P0076-AS02-NON-766923 SAMPLE 1 100 0.3780 0.0340.00040 0.00028 0.00014 1.31781 031014 DETECTED DIRECT 30 14.5 0.004 FIELD 3709.8 40 P0076-AS03-786924 SAMPLE 100 0.3760 0.077 AC 0.00040 0.00028 0.00020 1.95982 031014 DIRECT 20 13.0 0.003

Rev. 1: Report formal changed, which may have impact on the reporting or detection limits reported. Prease use this report to replace all versions previously received.

J. XU

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos). Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s): \*NOTE:

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-Indirect-transfer transmission electron microscopy method. Refer to sample pre

3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.

4. This summary report may not included all information submitted by clients. Furthermore, Batta will not be responsible for results that are due to improper sample collection and inaccurate data provided by clients.

5. This summary report precedes all electronic versions of any kinds, including copies in full or in part.



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E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVLAP #101032

SAMPLE SUMMARY REPORT

Revision#: 1

COC#:

2-031214-124554-0033

Page 1 of 1

Batch #:

5255

Test Method: NIDSH 7402 - Ashestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

ത്രിത്രമില്ലിട്ടത്തിന

Det Window 0 008 min

**General Information** 

BLI Project #: L6688G

Project Name: WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A

Instruments / Scope Model | OEM 1000XUL Magnification / 19000

Det Areas 10 mm Sampling Location: 0029-0122

Date Sampled: 3/11/2014 Sampled by: CLIENT

Date Received: 3/13/2014

Report Date:

4/7/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Primary Filter Area (mm²):

2nd Filter Area (mm²):

Media: MCE

Grid Area (mm²): 0.0094

Date Prepped: 3/13/2014

Prepped By: ARY/JX

Date Analyzed: 3/13/2014

Analyzed By: JX

	Sample ID and	Prep Inform	nation			Analytica	al Data	_		Results	
	Field	Sample	<b>D.1.</b>	Air Volume (L)	# of Grid Openings	Total # of Asb. by TEM	Asbestos	Target	Reported	Reported Air	Reported
Lab Sample Number	Sample	QA Type-	Dilution Factor	PCM Fields	Area Analyzed (mm²)	Asb. Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration	Filter Density
	Number	Prep Type		PCM Fibers	Total # of TEM PCME Fibers	f/cc by PCM	Detected	(f/ce)	(ficc)	(f/cc)	(ffmm²)
		FIELD		0	40	0.0	NON-				*
787002	LB-A-031114	SAMPLE	1	100	0.3760	< 0.167	DETECTED	0.00040	N/A	N/A	< 1.16773
		DIRECT		2.5	3.0	N/A	DETECTED				
	P0007-AS01-	FIELD		3661.2	40	0.0	NON-				
787003	031114	SAMPLE	1	100	0.3760	< 0.063	DETECTED	0.00040	0.00028	< 0.00012	< 1.11465
	001114	DIRECT		14.0	8.0	0.002	DC1CQ1CO.				
	P0007-AS02-	FIELD		3799.8	40	0.0	NON-			· · · · · · · · · · · · · · · · · · ·	
787004	031114	SAMPLE	1	100	0.3760	< 0.167	DETECTED	0.00040	0.00027	< 0.00022	< 2.12314
		DIRECT		10.0	3.0	0.001	BEICOICE				
	P0007-AS03-	FIELD		3663	40	0.0	NDN-				
787005	031114	SAMPLE	1	100	0.3760	< 0.043	DETECTED	0.00040	0.00028	< 0.00007	< 0.66464
<del></del>		DIRECT		12.0	11,5	0.002	BEILOILB				
	P0051-AS01-	FIELD		3794.4	40	0.0	NON-				
787006	031114	SAMPLE	1	100	0.3760	< 0.048	DETECTED	0.00040	0.00027	< 0.00004	< 0.36397
	001111	DIRECT		6.0	10,5	0.001	DETECTED				
	P0051-AS02-	FIELD		3618	40	0.0	NON-			<del></del>	
787007	031114	SAMPLE	1	100	0.3760	< 0.125	DETECTED	0.00040	0.00028	< 0.00014	< 1.27389
	901111	DIRECT		8.0	4.0	0.001	DETECTED				
	P0051-AS03-	FIELD		3634.2	40	0.0	NON-				
787008	031114	SAMPLE	1 .	100	0.3760	< 0.067	DETECTED	0.00040	0.00028	< 0.00005	< 0.46709
		DIRECT		5.0	7.5	0.001	22.20,20				

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of tibers detected in TEM.

Reviewed By:

Analyst(s):

\*NDTE:

1. LA: Libby Amphibole; AC; Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM; Amosite

2. Indirect sample prep is based on ISD 13794:1999[E]: Ambient air-Determination of asbestos fibers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.

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5. This summary report precedes all electronic versions of any kinds, including copies in full or in part.



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Delaware Industrial Park - 6 Garfield Way - Newark, DE 19713-5817 (302) 737-3376 - Fax (302) 737-5764 .battaenv.com E-mail: battaanv@battaenv.com

## SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVI AP #101032

Page 1 of 1

Revision#: 1

COC#:

2-031314-083644-0035

Batch #:

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

**General Information** 

Date Sampled:

BLI Project #: L6888G

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A

Sampling Location: 0029-0122

Date Received: 3/14/2014

Report Date:

4/7/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Date Analyzed: 3/15/2014

Primary Filter Area (mm²): 385 Date Prepped: 3/12/2014

3/12/2014

2nd Filter Area (mm²):

Sampled by:

Prepped By: JX

N/Α Media: MCE Grid Area (mm²): 0.0094

Analyzed By: ARY

	Sample iD and	Prep Inform	atien			_Anaiytica	ai Data		•	Resuits	
	Field	Sample		Air Volume (L)	# of Grid Openings	Total # of Asb. by TEM	Asbestos	Target	Reported	Reported Air	Reported
Lab Sample Number	Sample	QA Type-	Dilutien Factor	PCM Fletds	Area Analyzed (mm²)	Asb. Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration	Fiiter Density
	Number	Prep Typa		PCM Fibers	Total # of TEM PCME Fibers	f/cc by PCM	Detected	(f/cc)	(f/cc)	(f/cc)	(f/mm²)
		FIELD		0	40	0.0	NON-				
787070	FB-A-031214	SAMPLE	1	100	0.3760	< 0.091	DETECTED	0.00040	N/A	N/A	< 0.63694
		DIRECT		1	0.0	N/A	02120120				
	P0054-AS01-	FIELD		3775.7	40	0	NON-				
787071	031214	SAMPLE	1	100	0.3760	< 0.091	DETECTED	D.00040	0.00027	< 0.00012	< 1.15808
		DIRECT		1D	0.0	0.001	DETECTED				
	P0054-AS02-	FIELD		3901.9	40	0	NON-				
787072	031214	SAMPLE	1	100	0.3760	< 0.091	DETECTED	0.00040	0.00026	< 0.00018	< 1.85292
	001214	DIRECT		16	0.0	0.002	OLICOILD				
	P0054-AS03-	FÆLD		3853.1	40	0	NON-				
787073	031214	SAMPLE	1	100	0.3760	< 0.250	DETECTED	0.00040	0.00027	< 0.00045	< 4.45860
	00,214	DIRECT		14	2.0	0.002	02120120				
	P0055-AS01-	FIELD		3776.4	40	0	NON-				
787074	031214	SAMPLE	1	100	0.3760	< 0.143	DETECTED	0.00040	0.00027	< 0.00017	< 1.63765
	VO1214	DIRECT		9	3.5	0.001	- 50120120				•
	P0055-AS02-	FIELD		3661.2	40	0	NON-				
787075	031214	SAMPLE	1	100	0.3760	< 1.000	DETECTED	0.00040	0.00028	< 0.00107	< 10.19108
	001214	DIRECT_		8	0.5	0.001	- 26160120				
	P0055-AS03-	FIELD		3690	40	0	NON-				
787076	031214	SAMPLE	1	100	0.3760	< 0.250	DETECTED	0.00040	0.00028	< 0.00020	< 1.91083
		DIRECT		6	2.0	0.001	- DE100160				

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

ARY

\*NOTE:

1. LA; Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-Indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.

4. This summary report may not included all information submitted by clients. Furthermore, Batta will not be responsible for results that are due to improper sample collection and inaccurate data provided by clients.

5. This summary report precedes all electronic versions of any kinds, including copies in full or in part.



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## SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVLAP #101032

Page 1 of 1

Revision#:

COC#:

2-031414-123018-0037

Batch #:

Project Name:

Date Sampled:

5262

Test Method: NIOSH 7402 - Asbestos by TEM

JEMAOOKKII SHOphication (19,000)

Prep Method: NIOSH 7402 - Asbestos by TEM

General Information

BLI Project #: L6888G

3/13/2014

WESTON SOLUTIONS,INC.-RST 2 RFP NO. 279A

CLIENT

Date Received:

Sampling Location: 0029-0122 3/18/2014

Report Date:

4/7/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Date Analyzed: 3/18/2014

Primary Filter Area (mm²): Date Prepped: 3/18/2014

2nd Filter Area (mm2): Prepped By: ARY

Sampled by:

N/A Media: MCE Grid Area (mm2): 0.0094

De Windowsoldesmint

Analyzed By: JX

	Sample ID and	Prep Inform	nation			Analyti	ai Data			Results	
	Field	Sample		Air Volume (L)	# of Grid Openings	Total # of Asb. b TEM	Asbestos	Tärget	Reported	Reported Air	Reported
Lab Sample Number	Sample Number	QA Type- Prep Type	Dilution Factor	PCM Fields	Area Analyzed (mm <sup>2</sup> )	Asb. Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration	Filter Density
	, Mailinei			PCM Fibers	Total # of TEM PCME Fibers	f/cc by PCM	Detected	(f/cc)	(ficc)	(fice)	(f/mm²)
	P0065-AS01-	FIELD		3856.9	40	1.0					
787210	031314	SAMPLE	1	100	0.3760	0.065	CH	0.00040	0.00027	0.00024	2.42449
	001014	DIRECT		29.5	15.5	0.004	<u> </u>				
	P0085-AS02-	FIELD		3762.4	40	<u>1</u> .5					<del></del>
787211	031314	SAMPLE	1 .	100	0.3760	0.071	CH	0.00040	0.00027	0.00024	2,36579
	001014	DIRECT		26.0	21.0	0.003					
	P0065-A\$03-	FIELD		3787.5	40	0.0	- NDN-	<del>, , , , , , , , , , , , , , , , , , , </del>			
787212	D31314	SAMPLE	1	100	0.3760	< 0.036	- DETECTED	0.00040	0.00027	< 0.00012	< 1.22489
		DIRECT		25.0	13.0	0.003	- 00100100				
	PDD67B-	FIELD		3853.6	40	0.0	- NDN-			<del></del>	· · · · · · · · · · · · · · · · · · ·
767213	AS01-	SAMPLE	1	100	0.3760	< 0.111	- DETECTED	0.00040	0.00027	< 0.00006	< 0.77849
	031314	DIRECT		4.0	4.5	0.001	- DETECTED				
	P0067B-	FIELD		3727.8	40	D.0	- NDN-				
787214	AS02-	SAMPLE	1	100	0.3760	< 0.500	- DETECTED	D.00040	0.00027	< 0.00053	< 5.09554
	031314	DIRECT		8.0	1.0	0.001	- DETECTED				
	PD0678-	FIELD		3796.2	40	0.0	- NDN-			<del></del>	
787215	AS03-	SAMPLE	1	100	0.3760	< 0.250	- DETECTED	0.00040	0.00027	< 0.00019	< 1.91083
	87215 AS03- 031314	DIRECT		6.0	2.0	0.001	- 50150150				

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calcutated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

JΧ

\*NOTE:

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISO 13794:1999(E); Ambient air-Optermination of asbestos fibers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the Sample prep sheets and analytical benchsheets for details.

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E-mail: battaenv@battaenv.com

E.P.A. LAB ID# DE004



A I H A /NLLAP #100448

NVI AP #101032

## SAMPLE SUMMARY REPORT

Revision#:

COC#:

2-031714-132757-0039

Page 1 of 2

Batch #:

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

General Information

BLI Project #: L6888G

3/15/2014

WESTON SOLUTIONS, INC.-RST 2 RFP No. 279A

Sampled by:

CLIENT

Sampling Location: 0029-0122

Date Received: 3/18/2014

Report Date:

4/7/2014

**Analytical Data** 

Project Name:

Date Sampled:

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Date Analyzed: 3/19/2014

Primary Filter Area (mm²): Date Prepped: 3/18/2014

2nd Filter Area (mm²): Prepped By: JX

Media: MCE

Grid Area (mm2): 0,0094

Analyzed By: AY

	Sample ID and	Prep Inform	nation	·		Analytica	ai Data			Results	
	Field	Sample		Air Volume (L)	# of Grid Openings	Total # of Asb. by TEM	Asbestos	Target	Reported	Reported Air	Reported
Lab Sample Number	Sample Number	QA Type-	Dilution Factor	PCM Fields	Area Anglyzed (mm²)	Asb. Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration	Filter Density
		Prep Type		PCM Fibers	Total # of TEM PCME Fibers	f/cc by PCM	Detected	(f/cc)	(f/cc)	(f/cc)	(f/mm²)
	P0056A-	FIELD		3814.2	40	0.0	NDN-				······
7a7240	AS01~	SAMPLE	1	100	0.3760	< 0.067	DETECTED	0.00040	0.00027	< 0.00013	< 1.27389
	031514	DIRECT		15.0	7.5	0.002	DETCOTED				
	P0056A-	FIELD		3640.1	40	0.0	NDN-				····
787241	AS02-	SAMPLE	1	100	0.3760	< 0.056	DETECTED	0.00040	0.00028	< 0.00012	< 1.13234
	031514	DIRECT		16.0	9.0	0.002	DETECTED				
	P0056A-	FIELD		3639.8	40	0.0	NON-			<del></del>	
787242	AS03-	SAMPLE	1	100	0.3760	< 0.040	DETECTED	0.00040	0.00028	< 0.00012	< 1.17197
	031514	DIRECT		23.0	12.5	0.003	DETECTED				
	P0056B-	FIELD		3875.6	40	0.0	h I M L I				
787243	AS01-	SAMPLE	1	100	0.3760	< 0.053	NDN-	0.00040	0.00028	< 0.00014	< 1.34093
-	031514	DIRECT		20.0	9.5	0.003	DETECTED	_	- · · · <del>-</del>		1.0 1000
	P0056B-	FIELD		3751.2	40	0.0	NOU			<del></del>	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
787244	AS02-	SAMPLE	1	100	0.3780	< 0.063	NON-	0.00040	0.00027	< 0.00016	< 1,59236
	031514	DIRECT		20.0	8.0	0.003	DETECTED			0.00010	1,00200
	P0056B-	FIELD		3825	. 40	0.0		-			
787245	AS03-	SAMPLE	1	100	0.3760	< 0.030	NON-	0.00040	0.00027	< 0.00016	< 1.54410
	031514	DIRECT		40.0	16.5	0.005	DETECTED				1.0,7410
	P0067A-	FIELD		3718.8	40	0.0				<del></del>	
787246	AS01-	SAMPLE	1	100		< 0.083	NON-	0.00040	0.00028	< 0.00012	< 1.16773
	031514	DIRECT		11.0	6.0	0.001	DETECTED		4,4442	0.00012	1,10773
	P0067A-	FIELD		3704.4	40	0.0				· · · · · · · · · · · · · · · · · · ·	
787247	A\$02-	SAMPLE	1	100	0.3760	< 0.11	NON-	0.00040	0.00028	< 0.00010	< 0.99080
	031514	DIRECT		7.0	4.5	0.001	OETECTED				0.55000
	P0067A-	FIELD		3727.8	40	0.0				<del></del>	· · · · · · · · · · · · · · · · · · ·
787248	AS03-	SAMPLE	1	100		< 0.06	NON-	0.00040	0.00027	< 0.00011	< 1.04908
	031514	DIRECT		14.0	8.5	0.002	DETECTED		000	0.00011	1.0-1000
		FIFID		3771	40	0.0					
787249	P0074-AS01-	SAMPLE	1	100		< 0.13	NON-	0.00040	0.00027	< 0.00016	< 1,59236
	031514	DIRECT	•	10.0	4.0	0.001	DETECTED		0.00021	- 0.00018	- 1,032,00

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

\*NOTE:

1. LA: Libby Amphibole; AC; Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

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## SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVI AP #101032

Page 2 of 2

Revision#: 1

COC#:

2-031714-132757-0039

Batch #:

Project Name:

Date Sampled:

Test Method: NIDSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

Det. Area (10 mm st. ) LaDet. Window(20,008 mm

General Information

BLI Project #: L6B88G

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A 3/15/2014

Sampled by:

Prepped By: JX

CLIENT

Sampling Location: 0029-0122

Oate Received: 3/18/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Primary Filter Area (mm²):

Date Prepped: 3/18/2014

2nd Fiiter Area (mm²):

N/A Media: MCE

Date Analyzed: 3/19/2014

Grid Area (mm²): 0.0094

Analyzed By: AY

-	Sample ID and	Prep Inform	nation			Analytica	ai Data				Results	
	Field	Sample		Air Valume (L)	# of Grid Openings	Total # of Asb, by TEM	Asbestos	Target	Reported		Reported Air	Reported
Lab Sample Number	Sample	QA Type-	Dilution Factor	PCM Fields	Area Analyzed (mm²)	Asb, Fiber Ralio	Mineral Type	Sensitivity	Sensitivity		Concentration	Filter Density
	Number	Prep Type		PCM Fibers	Total # of TEM PCME Fibers	f/cc by PCM	Detected	(f/cc)	(ffcc)		(f/cc)	(f/mm²)
<del></del>	P0074-AS02-	FIELD		3691.8	40	0.0	NON-					
787250	031514	SAMPLE	1	100	0.3760	< 0.091	DETECTED	0.00040	0.00028	<	0.00007	< 0.69485
	031314	DIRECT		6.0	0.0	0.001	DETECTED					
	D0074 6003	FIELD		3807	40	0.0	NON					
787251	P0074-AS03-	SAMPLE	1	100	0.3760	< 0.250	NON-	0,00040	0.00027	<	0.00021	< 2,07006
	031514	DIRECT		6.5	2.0	0.001	DETECTED					0.000

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

ΑY

"NOTE:

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISD 13794:1999(E): Ambient air-Determination of asbestos fibers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or prepped by multiple instruments, analysis, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.

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SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVI AP #101032

Det Window, D008 mm

Page 1 of 1

Revision#: 1

COC#:

2-031914-111710-0041

Batch #:

Test Method: NIOSH 7402 - Asbestos by TEM

CLIENT

Prep Method: NIOSH 7402 - Asbestos by TEM

(19:000) (Complete Upin I/Condition

General Information BLI Project #:

Project Name:

Date Sampled:

L6888G

3/18/2014

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A

Sampling Location: 0029-0122

Date Received: 3/20/2014

4/7/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Primary Filter Area (mm²):

2nd Filter Area (mm²):

Sampled by:

N/A

TISTAMENTS ScopoModel JEMADOCKII Magnification

Media: MCF

Grid Area (mm²): 0.0094

Analyzed By: JX

Prepped By: AY Date Prepped: 3/20/2014 Date Analyzed: 3/23/2014 Sample ID and Prep Information **Analytical Data** Results Total # of Asb. by Air Volume # of Grid Openings (L) TEM Target Reported Reported Air Reported Field Sample Asbestos Lab Sample Dilution Area Analyzed Sample QA Type-PCM Fields Asb, Fiber Ratio Mineral Type Sensitivity Sensitivity Concentration Filter Density Number Factor (mm²) Number Prep Type Detected Total # of TEM PCM Fibers f/cc by PCM PCME Fiber (f/cc) (ficc) (f/cc) (f/mm²) FIELD 0.0 NON-787313 FB-A-031814 SAMPLE 1 100 0.3760 0.333 0.00040 N/A N/A 2.33546 DETECTED DIRECT 0.0 1.5 N/A FIELD 3611.7 40 1.0 P0068-AS01-SAMPLE 787314 1 100 0.3760 0.043 AC 0.00040 0.00028 0.00018 1.68044 031814 DIRECT 31.0 23.5 0.004 FIELD 3882.6 40 0.0 P0068-AS02-NDN-SAMPLE 787315 1 100 0.3760 0.027 0.00040 0.00026 0.00013 1.34274 031814 DETECTED DIRECT 39.0 18.5 0.005 FIELD 3805.2 40 0.0 P0068-AS03-NON-787316 SAMPLE 1 100 0.3760 0.018 0.00040 0.00027 0.00008 0.83808 031814 DETECTED DIRECT 37.5 28.5 0.005 FIELD 4019 40 0.0 P0077-AS01-NON-SAMPLE 787317 1 100 0.3760 0.071 0.00040 0.00025 0.00012 1.22839 031814 DETECTED DIRECT 13.5 7.0 0.002 FIELD 4024.8 40  $a_0$ P0077-AS02-NDN-SAMPLE 787318 1 100 0.3760 0.083 0.00040 0.00025 0.84926 0.00008 031814 DETECTED DIRECT 8.0 6.0 0.001 FIELD 4017 40 0.0 P0077-AS03-NON-SAMPLE 1 787319 100 0.3760 0.111 0.00040 0.00025 0.00012 < 1.20311 031814 DETECTED DIRECT 8.5 4.5 0.001

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

JX

\*NOTE:

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISD 13794:1999(E): Ambient air-Determination of asbestos fibers-Indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

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## SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVLAP #101032

PAJVN

Dec Window 00008 mm

Page 1 of 1

Revision#: 1

COC#:

2-032014-111142-0043

Batch #:

Date Sampled:

5250

eo.

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

**General Information** 

BLI Project#: L6

Project Name: WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A

3/19/2014

Sampled by:

CLIENT

Sampling Location: 0029-0122

Date Received: 3/21/2014

Report Date:

4/7/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Primary Filter Area (mm²): Date Prepped: 3/23/2014

²): 385

2nd Filter Area (mm²):

Prepped By: JX

NΑ

Media: MCE Date Analyzed: 3/24/2014 Grid Area (mm²): 0.0094

Analyzed By: JX

Sample ID and Prep Information Analytical Data Results Air Volume Total # of Asb. by # of Grid Openings (L) Reported Air TEM Target Reported Reported Field Sample Asbestos Lab Sample Dilution Area Analyzed Sample QA Type-PCM Fields Asb. Fiber Ratio Mineral Type Sensitivity Sensitivity Concentration Number Factor (mm²) Filter Density Ргер Туре Number Detected Total # of TEM PCM Fibers ffcc by PCM PCME Fibers (ffcc) (f/cc) (f/cc) (f/mm<sup>2</sup>) FIELD 3769.2 0.0 P0073-AS01-NON-787415 SAMPLE 1 0.000400.00027 100 0.3760 0.059 0.00008 0.74934 031914 DETECTED DIRECT 10.0 8.5 0.001 FIELD 3709.8 40 0.0 P0073-AS02-NON-767416 SAMPLE 1 100 0.3760 0.125 0.00040 0.00026 0.00012 1 11465 031914 DETECTED DIRECT 7.0 4.0 0.001 FIELD. 3632.2 40 0.0 P0073-AS03-NON-SAMPLE 787417 1 100 0.3760 0.091 0.00040 0.00027 0.00007 0.69485 031914 DETECTED DIRECT 6.0 5.5 0.001

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos libers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of libers detected in TEM.

Reviewed By:

Analyst(s):

· JX

\*NOTE:

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers indirect transfer transmission electron microscopy method. Refer to sample prep sheets for djutton details.

3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the semple prep sheets and analytical benchsheets for details.

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SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVLAP #101032

Revision#: 1

COC#:

2-032414-131848-0045

Batch #:

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

**General Information** 

BLI Project #: 1.6888G Project Name:

3/21/2014

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A Sampled by:

CLIENT

Sampling Location: 0029-0122

IBM/1009XCI/ Magai (leation) (19000).

Date Received: 3/25/2014

**Analytical Data** 

Date Sampled:

Note: Results provided in this summary report do not have to egree with those obtained from the EPA NADES EDD report.

Primary Filter Area (mm²): Date Prepped: 3/25/2014

2nd Filter Area (mm²):

Prepped By: AY

N/A

Media: MCF Date Analyzed: 3/26/2014 Grid Area (mm²): 0.0094

Analyzed By: AY

	Sample ID and	Prep Inform	ation			Analytica	al Data			Results	
	Field	Sample		Alr Volume (L)	# of Grid Openings	Total # of Asb. by TEM	Asbestos	Target	Reported	Reported Air	Reported
Lab Sampie Number	Sample	QA Type-	Dilution Factor	PCM Fields	Area Analyzed (mm²)	Asb. Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration	Filter Density
	Number	Prep Type		PCM Fibers	Total # of TEM PCME Fibers	f/cc by PCM	Detected	(f/cc)	(f/cc)	(f/cc)	(f/mm²)
	DODAE AROS	FIELD		3543.3	40	1.0					
787615	787615 P0046-AS01- 032114	SAMPLE	1	89	0.3760	0.012	TR	0.00040	0.00029	0.00019	1.74845
		DIRECT		102.0	83.5	0.016					
	P0046-AS02-	FIELD		3736.6	40	0.0	116531				
787616	032114	SAMPLE	1	100	0.3760	< 0.009	NDN-	0.00040	0.00D27	< 0.00012	< 1.14533
	. 032114	DIRECT		98.0	54.5	0.013	DETECTED				
	DD0.46 A S02	FIELD		3916.5	40	0.0	41541				
787617	932114	SAMPLE	1	100	0.3760	< 0.007	- NDN-	0.0D040	0.00026	< 0.00007	< 0.67568
		DIRECT		78.5	74.0	0.010	DETECTED	*			

Rev. 1: The report formal changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

ΑY

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysofile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-indirect-transfer trensmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or propped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.

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battaenv.com

E-mail: battaenv@battaenv.com

REALIST CARRESTATES

E.P.A. LAB ID# DE004

A.I.H.A./NILLAP #100448

NVI AP #101032

## SAMPLE SUMMARY REPORT

Revision#: 1 COC#:

2-032514-124456-0048

Test Method: NIOSH 7402 - Asbestos by TEM

Page 1 of 1

Batch #:

5273

**General Information** BLI Project #: L6888G

Scope, Accept James 1000X () Alternation (19,000) - Analyzer Kevexs

Prep Method: NIOSH 7402 - Asbestos by TEM

യാലെയാല് വേദ്യാ

Delt Windows Collection

Project Name: WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A Date Sampled: 3/24/2014

Sampled by: CLIENT Sampling Location: 0029-0122 Date Received: 3/26/2014

Report Date:

4/7/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Primary Filter Area (mm²): Date Prepped: 3/26/2014

2nd Filter Area (mm2):

Prepped By: JX

N/A

Media: MCE

Grid Area (mm²): 0.0094

Date Analyzed: 3/26/2014

Analyzed By: JX

	Sample ID and	Prep Inform	ation			Analytica	at Data			Results		
	Field	Sample	D	Air Voluma (L)	# of Grid Openings	Total# of Asb. by TEM	Asbestos	Target	Reported	Reported Air	Reported	
Lab Sample Number	Sample Number	QA Type-	Dilution Factor	PCM Fields	Area Analyzed (mm²)	Asb, Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration	Filter Density (f/mm²)	
	Number	Prep Type		PCM Fibers	Total # of TEM PCME Fibers	f/cc by PCM	Detected	(f/cc)	(flcc)	(ficc)		
	P0004-AS01-	FIELD	***************************************	3717	40	1.0						
787696	032414	SAMPLE	1	100	0.3760	0.059	CH	0.00040	0.00028	0.00022	2.09816	
		DIRECT		28.0	17.0	0.004			<u> </u>	÷		
	P0004-AS02-	FIELD		3717	40	0.0	NON-					
787697	032414	SAMPLE	1	100	0.3760	< 0.048	DETECTED	0.00040	0.00028	< 0.00018	< 1.69851	
	002414	DIRECT		28.0	10.5	0.004	DE160160					
	P0004-AS03-	FIELD		3738.6	40	0.0	NON-			· · · · · · · · · · · · · · · · · · ·		
787698	032414	SAMPLE	1	100	0.3760	< 0.048	DETECTED	0.00040	0.00027	< D.00012	< 1.15256	
		DIRECT		19,0	10.5	0.D02	BETEOTED				-	
	P0079-AS01-	FIELD		3693.6	40	0.0	NON-					
787699	D32414	SAMPLE	1	100	0.3760	< 0.071	DETECTED	0.00040	0.00028	< 0.00011	< 1.09190	
	D02414	DIRECT	. %	12.0	7.0	0.002	DETECTED -					
	P0079-AS02-	FIELD		3655.8	40	0.0	NON-					
787700	032414	SAMPLE	1	100	0.3760	< 0.083	DETECTED	0.00040	0.00028	< 0.00018	< 1.69851	
	002414	DIRECT		16.0	6.0	0.002	DETECTED					
	P0079-AS03-	FIELD		3648.6	40	0.0	MON					
787701	032414	SAMPLE	1	100	0.3760	< 0.042	NON- DETECTED	D.00040 0.000		< 0.00013	< 1.27389	
	002514	DIRECT		24.0	12.0	0.003	DETECTED					

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Analyst(s):

1, LA: Libby Amphibale; AC: Actinolite; TR: Tremolite; CH: Chrysolile; CR: Crocidolile; AN: Anthophyllite; AM: Amosite

Reviewed By:

2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Detarmination of asbestos fibers-Indirect-transfer transmission electron microscopy method. Refer to sample prep she 3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical banchsheats for details

4. This summary report may not included all information submitted by clients. Furthermore, Gatta will not be responsible for results that are due to improper sample collection and inaccurate data provided by clients.

5. This summary report precedes all electronic versions of any kinds, including copies in full or in part.



## BATTA

## BATTA LABORATORIES, INC.

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Web: www.battaenv.com E-mail: battaenv@battaenv.com E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVIAP #101032

## SAMPLE SUMMARY REPORT

Revision#: 1

COC#:

2-032614-130037-0050

Page 1 of 1

Batch # ·

5270

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

**General Information** 

sigona Medial

Sampling Location: 0029-0122

ABASIOOCA II ABTOMBENDO SPROOD

Optional condition

BLI Project #: L6888G Project Name: Date Sampled:

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A 3/25/2014 Sampled by:

Date Received: 3/27/2014 Report Date:

4/7/2014

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EDD report.

Date Analyzed: 3/28/2014

Primary Filter Area (mm²): Date Prepped: 3/27/2014

2nd Filter Area (mm2):

Prepped By: JX

Media: MCE

Grid Area (mm2); 0,0094

Analyzed By: JX

Sample ID and Prep Information Analytical Data Results Total # of Asb. by # of Grid Openings (L) TEM Target Reported Reported Air Reported Fleid Sample Asbestos Dilution Lab Sample Area Analyzed Sample QA Type-PCM Fields Asb. Fiber Ratio Mineral Type Sen sitivity Sensitivity Number Factor Concentration Filter Density (mm²) Number Prep Type Detected Total # of TEM PCM Fibers f/cc by PCM PCME Fibers (f/cc) (f/cc) (f/mm²) (f/cc) FIELD 0.0 n NON-FB-A-032514 SAMPLE 787749 1 100 0.3760 0.091 0.00040 N/A N/A 0.63694 DETECTED DIRECT 3.0 0.0 N/A FIELD 3722.4 2.0 40 P0005-AS01-SAMPLE 787750 CH 100 0.3760 0.222 0.00040 0.00028 0.00044 4.24628 032514 DIRECT 15.0 9.0 0.002 FIELD 3803.4 40 1.0 P0005-AS02-SAMPLE 787751 1 100 0.3760 CH 0.065 0.00040 0.00027 0.00032 3.12307 032514 DIRECT 38.0 15.5 0.005 FIFLD 3664.8 40 4.0 PD005-A\$03-1 787752 SAMPLE 100 0.3760 0.222 СН 0.00040 0.00028 0.00036 3.39703 032514 DIRECT 12.0 18.0 0.002 FIELD 3610.8 P0049-AS01-NOT NOT NOT SAMPLE 787753 0.0000 DVERLDAD 0 0.00040 032514 ANALYZED ANALYZED ANALYZED 0.0 N/A FIELD 3661.2 P0049-AS02-NOT NOT NOT 787754 SAMPLE OVERLOAD 0 0.0000 0.00040 032514 ANALYZED ANALYZED ANALYZED N/A 0.0 FIELD 3848.4 40 1.0 P0049-AS03-787755 SAMPLE 0.3760 100 0.050 0.00040 0.00027 0.00043 4.33121 032514 DIRECT 68.0 20.0 0.009

Rev. 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensiovity is calculated based on the actual number of asbestos fibars detected in TEM. Asb. (asbestos) Fiber Ratio is the rabo of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

JX

\*NOTE:

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crockblite; AN: Anthop hyllite; AM: Amosite

2. indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-Indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or preppeal by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details,

4. This summary report may not included all information submitted by clients. Furthermore, Batta will not be responsible for results that are due to impraper sample collection and inaccurate data provided by clients.

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SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVLAP #101032

Page 1 of 1

Revision#: 0

Project Name:

Date Sampled:

COC#: Batch #: 2-032714-112056-0053

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIDSH 7402 - Asbestos by TEM

Operational Condition

Det Window 0008 min

**General Information** 

BLI Project #:

L6888G

3/26/2014

WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A Sampled by: CLIENT Sampling Location: 0029-0122

Sicopa(Model):::::0EM\1000Xqli:Magnification::19000

Date Received: 3/28/2014

Report Date:

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NACES EDO report.

Primary Filter Area (mm²):

2nd Filter Area (mm2):

Media: MCE

Grid Area (mm2): 0.0094

Analyzed By: JX

Date Prepped: 3/28/2014

Prepped By: JX

Date Analyzed: 3/28/2014

	Field Sample Silvation					Analytica	al Data			Results	
	Field	Sample		Air Volume (L)	# of Grid Openings	Total # of Asb. by TEM	Asbestos	Target	Reported	Reported Air	Reported
Lab Sample Number	Sample	QA Type-	Eliution Factor	PCM Fields	Area Analyzed (mm²)	Asb. Fiber Ratio	Mineral Type	Sensitivity	Sensitivity	Concentration	Filter Density
	Number	Prep Type		PCM Fibers	Total # of TEM PCME Fibers	f/cc by PCM	Detected	(ficc)	(f/cc)	(f/cc)	(f/mm²)
	P0186-AS01-	FIELD	•	3828.8					NOT	NOT	NOT
787858	0326	SAMPLE		0	0.0000		OVERLDAD	0.00040	ANALYZEO	ANALYZED	· ANALYZED
				0.0	·	N/A			ANALIZEO	ANALIZED	ANALIZED
	P0186-AS02-	FIELD		3836.3					NOT	NOT	NOT
787857	0326	SAMPLE		0	0.0000		OVERLOAD	0.00040	ANALYZED	ANALYZED	ANALYZED
				0.0		N/A			ANALIZED	ANACTZED	ANAC (ZLD
	P0186-AS03-	FIELD		3858.8		<u> </u>			NOT	NOT	NOT
787858	0326	SAMPLE		00	0.0000		OVERLDAD	AD 0.00040	ANALYZED	NOT ANALYZED	ANALYZED
				0,0		N/A			7.11112.7222	7.(7)2.22.2	744461262
	P0187-AS01-	FIELD		3672					NOT	пот	NOT
787859	0326	SAMPLE		0	0.0000		OVERLOAD	0.00040	ANALYZED	ANALYZED	ANALYZED
ä			~~	0.0		N/A				1 1111121244	
	P0187-AS02-	FIELD		3650.4	·				NOT	NOT	NOT
787860	0326	SAMPLE		0	0.0000		OVERLOAD	0.00040	ANALYZED	ANALYZED	ANALYZED
				0,0		N/A	<del></del>			7.1.7.C 1,C_C	
	P0187-AS03-	FIELD		3715.2					NOT	NOT	NOT
787861	0326	SAMPLE		0	0.0000		OVERLOAD	0.00040	ANALYZED	ANALYZED	ANALYZED
				0.0		N/A					

Note: all samples were overloaded with particulates, and upgraded for TEM analysis by ISD 13794:1999(E). Refer to the ISO report package for results

Note: Reported Sensitivity is calculated based on the actual number of aspestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

\*NOTE:

1. LA: Libby Amphibole: AC: Actinolite; TR: Tremolite; CH: Chrysotlie; CR: Crocidolite; AN: Anthophyllite; AM: Amosite

2. Indirect sample orep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or prepped by multiple instruments, analysis, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.

4. This summary report may not included all information submitted by clients. Furthermore, Batta will not be responsible for results that are due to improper sample collection and inaccurate data provided by clients.

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A LH A /NLLAP #100448

NVI AP #101032

## SAMPLE SUMMARY REPORT

Revision#: 1

COC#:

2-032814-101327-0055

Page 1 of 1

Batch #:

5282

Test Method: NIOSH 7402 - Asbestos by TEM

Prep Method: NIOSH 7402 - Asbestos by TEM

Instituments Score Model - JEN 1908 (Following 1900) ...... Oppositional Condition

**General Information** 

BLI Project #: L6888G

Project Name: WESTON SOLUTIONS, INC.-RST 2 RFP NO. 279A

Analyzen - Keyeke Cet Areas (omm - 001 Vindey o) 008 Sampling Location: 0029-0122

4/7/2014

Date Sampled:

3/27/2014

Sampled by: CLIENT 1 Date Receivad:

3/31/2014 Report Date:

**Analytical Data** 

Note: Results provided in this summary report do not have to agree with those obtained from the EPA NADES EOD report.

Primary Filter Area (mm²):

2nd Filter Area (mm2):

N/A

Media: MCE

Grid Area (mm²): 0.0094

Oate Prepped: 3/31/2014

Prepped By: JX

Date Analyzed: 3/31/2014

Analyzed By: JX

Sample ID and Prep Information Analytical Data Resuits Air Volume Total # of Asb. by # of Grid Openings (L) TEM Target Reported Reported Air Reported Field Sample Ashestos Lab Sampie Dilution Area Analyzed QA Type-Sample PCM Fields Asb. Fiber Ratio Mineral Type Sensitivity Sensitivity Concentration Filter Density Number Factor (mm<sup>2</sup>) Number Prep Type Detected Total # or TEM PCM Fibers f/cc by PCM (f/cc) (f/cc) PCME Fibers (f/cc) (f/mm<sup>2</sup>) FIELD 3677.4 40 1.0 P0189-AS01 787908 SAMPLE 1 100 0.3760 0.143 AN 0.00040 0.00028 0.00095 9,09918 032714 **OIRECT** 50.0 7.0 0.007 FIELD 3803.4 40 0.0 P0189-AS02-NON-787909 SAMPLE 1 0.3760 100 0.167 0.00040 0.00027 0.00110 10.82803 032714 DETECTED DIRECT 51.0 3.0 0.007 FIELD 3839.4 40 0.0 P0189-AS03-NON-787910 SAMPLE 1 100 0.00040 0.3760 0.143 0.00027 0.00036 3.63967 032714 DETECTED DIRECT 20.0 3.5 0.003

Ray, 1: The report format changed, which may have impact on the reporting or detection limit reported previously. Please use this report to replace all versions previously received.

Note: Reported Sensitivity is calculated based on the actual number of asbestos fibers detected in TEM. Asb. (asbestos) Fiber Ratio is the ratio of the number of asbestos over the total number of fibers detected in TEM.

Reviewed By:

Analyst(s):

\*NOTE:

1. LA: Libby Amphibole: AC: Actinolite: TR: Tremolite: CH: Chrysotile; CR: Crocidolite; AN: Anthophylifte; AM: Amosite

2. Indirect sample prap is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details

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# FIELD COC

USEPA

DateShipped: 3/11/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty

Contact Phone: 732-570-4943

No: 2-031114-112802-0031

Cooler #: 1

Lab: Batta Environmental Associates, inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
786919	P0008-AS04- 031014	Asbestos PCM (NIOSH 7400) and NEM (NIOSH 7402)	Air	3/10/2014	15:15	1	MCE Cassette	None	3619.8	Liters	N	9:15:00 AM	3:15:00 PM
0720	P0008-A\$05- 031014	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/10/2014	15:15	1	MCE Cassette	None	3724.2	Liters	N	9:15:00 AM	3:15:00 PM
921	P0008-AS06- 031014	Asbestos PCM (NiOSH 7400) and EM(NiOSH//402)	Air	3/10/2014	.15:15	1	MCE Cassette	None	3765.6	Liters	N	9:15;00 AM	3:15:00 PM
922	P0076-AS01- 031014	Asbestos PCM (NIOSH 7400) and IEM (NIOSH 7402)	Air	3/10/2014	14:15	1	MCE Cassette	None	3646.8	Liters	N.	8:15:00 AM	2:15:00 PM
923	P0076-AS02- 031014	Asbestos PCM (NIOSH 7400) and EM:(NIOSH 7402)	Alr	3/10/2014	14:15	1	MCE Cassette	None	3645	Liters	N.	8:15:00 AM	2:15:00 PM
4 GEST	P0076-AS03- 031014	Asbestos PCM (NIOSH 7400) and TEM (NIOSH/7402)	Air	3/10/2014	14:15	1	MCE Cassette	None	3709.8	Liters	N	8:15:00 AM	2:15:00 PM
	Polte												<u> </u>
4	de la company de												
			L					<u> </u>	l		·		· · · · · · · · · · · · · · · · · · ·

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Oate/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
allpamples	Jullety RSTD	3/11/14 1400	Bornie Me. BATTA URBORATORIES	अधापकु	
, ,				is .	

04/08/2014

DateShipped: 3/12/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-031214-124554-0033

Cooler #:

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Sar	mple#	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
7.5 ΓB-	A-031114	Asbestos PCM (NIOSH 7400) and TEM((NIOSH)7402)	Air	3/11/2014	08:05	1	MCE Cassette	None		Liters	N	8:05:00 AM	8:05:00 AM
_ 1	- '	Asbestos PCM (NIOSH 7400) and দEMং(NIOSHগ402)	Air	3/11/2014	15:00	1	MCE Cassette	None	3661.2	Liters	N	9:00:00 AM	3:00:00 PM
		Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	15:00	1	MCE Cassette	None	3799.8	Liters	N	9:00:00 AM	3:00:00 PM
		Asbestos PCM (NIOSH 7400) and TEMI(NIOSH 7402)	Air	3/11/2014	15:00	1	MCE Cassette	None	3663	Liters	N	9:00:00 AM	3:00:00 PM
		Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	18:15	1	MCE Cassette	None	3794.4	Liters	N	10:15:00 AM	4:15:00 PM
		Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	16:15	1	MCE Cassette	None	3618	Liters	N	10:15:00 AM	4:15:00 PM
		Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/11/2014	16:15	. 1	MCE Cassette	None	3634.2	Liters	Z	10:15:00 AM	4:15:00 PM
	10.14						_						
10	1111/2												
W-C													
	B P00 B	B-A-031114   P0007-AS01-031114   P0007-AS02-031114   P0007-AS03-031114   P0051-AS03-031114   P0051-AS03-	LB-A-031114	LB-A-031114	LB-A-031114 Asbestos PCM (NIOSH 7400) Air 3/11/2014 and TEM(NIOSH 7402) Air 3/11/2014	E Time   Asbestos PCM (NIOSH 7400)   Air   3/11/2014   08:05	B-A-031114	B-A-031114	B-A-031114	B-A-031114	B-A-031114	EB-A-031114   Asbestos PCM (NIOSH 7400)   Air   3/11/2014   08:05   1 MCE   Cassette   None   Liters   N	EB-A-031114   Asbestos PCM (NIOSH 7400)   Air   3/11/2014   08:05   1 MCE   Cassette   None   Liters   N 8:05:00   AM

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaiy@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
allanglises	bellety RST2	3/12/14 1400	Bomie No BATHA LABORATORIES	3/13/1480986	

**USEPA** 

DateShipped: 3/13/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-031314-083644-0035

Cooler #:

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
FB-A-031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	08:06	1	MCE Cassette	None		Liters	N	8:06:00 AM	8:06:00 AM
P0054-AS01- 031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	14:45	1	MCE Cassette	None	3775.69	Liters	N	8:30:00 AM	2:45:00 PM
P0054-AS02- 031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	14:45	1	MCE Cassette	None	3901.88	Liters	N	8:30:00 AM	2:45:00 PM
P0054-AS03- 031214	Ashestos PCM (NIOSH 7400) and TEM (NIOSH) 7402	Air	3/12/2014	14:45	1	MCE Cassette	None	3853,13	Liters	N	8:30:00 AM	2:45:00 PM
P0055-AS01- 031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	15:10	1	MCE Cassette	None	3776.4	Liters	N	9:10:00 AM	3:10:00 PM
P0055-AS02- 031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	15:10	1	MCE Cassette	None	3661.2	Liters	N	9:10:00 AM	3:10:00 PM
P0055-AS03- 031214	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/12/2014	15:10	1	MCE Cassette	None	3690	Liters	N	9:10:00 AM	3:10:00 PM
10010						-						
yel-Less)												
	FB-A-031214 ) P0054-AS01- 031214 P0054-AS02- 031214 P0055-AS01- 031214 P0055-AS02- 031214 P0055-AS03- 031214	FB-A-031214  P0054-AS01- 031214  P0054-AS02- 031214  P0054-AS02- 031214  P0054-AS03- 031214  P0055-AS03- 031214  P0055-AS02- 031214  P0055-AS02- 031214  P0055-AS03- 031214	FB-A-031214  Asbestos PCM (NIOSH 7400) Air and FEMINIOSH 7400)	FB-A-031214 Asbestos PCM (NIOSH 7400) Air 3/12/2014 and FEMI(NIOSH 7400) Air 3/12/2014	E Time   FB-A-031214   Asbestos PCM (NIOSH 7400)   Air   3/12/2014   08:06	B-A-031214	FB-A-031214	Bara	B Time   Cont   e	B Time   Cont   E   Units	FB-A-031214	FB-A-031214

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltulons.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
allsamples	In Petry RST2	3/13/14 1430	Bomio Mr. Barra WASDRANCIAES	34140017	
		,			

USEPA

DateShipped: 3/14/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-031414-123018-0037

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vo! Units	Lab QC	Start_Ti me	Stop_Ti
787210	P0065-AS01- 031314	Asbestos PCM (NIOSH 7400) and IEM (NIOSH 7402)	Air	3/13/2014	15:15	1	MCE Cassette	None	3856.88	Liters	N	9:00:00 AM	3:15:00 PM
) 211	P0065-AS02- 031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	15:15	1	MCE Cassette	None	3762.38	Liters	N	9:00:00 AM	3:15:00 PM
212	P0065-AS03- 031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	15:15	1	MCE Cassette	None	3787.5	Liters	N	9:00:00 AM	3:15:00 PM
23	P0067B-AS01- 031314	Asbestos PCM (NIOSH 7400) and JEMI(NIOSH 7402)	Air	3/13/2014	16:10	1	MCE Cassette	None	3853,55	Liters	N	10:00:00 AM	4:10:00 PM
214	P0067B-AS02- 031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	16:10	1	MCE Cassette	None	3727.75	Liters	N	10:00:00 AM	4:10:00 PM
125	P0067B-AS03- 031314	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/13/2014	16:10	1	MCE Cassette	None	3796.2	Liters	N	10:00:00 AM	4:10:00 PM
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Special instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

	Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	all analysis	Joel Pathy RSTD	3/14/14 1400	Bonni: Mei BAMA WIENGAMORIES	30/401042	
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04/08/2014

DateShipped: 3/17/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-031714-132757-0039

Cooler#; 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti
7872-40	P0056A-AS01- 031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	15:00	1	MCE Cassette	None	3814.2	Liters	N	9:00:00 AM	3:00:00 PM
lles	P0056A-AS02- 031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	15:00	1	MCE Cassette	None	3640.14	Liters	N	9:00:00 AM	3:00:00 PM
242	P0056A-AS03- 031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	15:00	1	MCE Cassette	None	3639.6	Liters	N	9:00:00 AM	3:00:00 PM
543	P0056B-AS01- 031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:00	1	MCE Cassette	None	3675.6	Liters	N	6:00:00 AM	12:00:00 PM
244	P0056B-AS02- 031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:00	1	MCE Cassette	None	3751.2	Liters	N	6:00:00 AM	12:00:00 PM
342	P0056B-AS03- 031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:00	1	MCE Cassette	None	3825	Liters	N	6:00:00 AM	12:00:00 PM
246	P0067A-AS01- 031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:40	1	MCE Cassette	None	3718.8	Liters	N	6:40:00 AM	12:40:00 PM
Zψ	P0067A-AS02- 031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:40	1	MCE Cassette	None	3704.4	Liters	N	6:40:00 AM	12:40:00 PM
248	P0067A-AS03- 031414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/14/2014	12:40	1	MCE Cassette	None	3727.8	Liters		6:40:00 AM	12:40:00 PM
P. 249	P0074-AS01- 031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/15/2014	14:00	- 1	MCE Cassette	None	3771	Liters	1	8:00:00 AM	2:00:00 PM

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples	Wellety RST2	3/17/14 1530	Bromie Mei Borona ARDADIOAES	3/8/14/Earls	
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DateShipped: 3/17/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122 Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-031714-132757-0039

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
787250	P0074-AS02- 031514	and TEM (N/OSH/7402)	Air	3/15/2014	14:00	1	MCE Cassette	None	3691.8	Liters	N	8:00:00 AM	2:00:00 PM
28	P0074-AS03- 031514	Asbestos PCM (NIOSH 7400) and TEM (NIOSHT/402)	Air	3/15/2014	14:00	1	MCE Cassette	None	3807	Liters	N	8:00:00 AM	2:00:00 PM
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Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltulons.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all sumples	Welletts RST2	3/17/14 1530	Bomi Mei BATTOA UTBORATORES	3/18/14@0943	

DateShipped: 3/19/2014 RFP# 279 **CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-031914-111710-0041

Cooler#: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampi e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
787313	FB-A-031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	07:15	1	MCE Cassette	None		Liters	N	7:15:00 AM	7:15:00 AM
314	P0068-AS01- 031614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	15:10	1	MCE Cassette	None .	3611.7	Liters	N	9:10:00 AM	3:10:00 PM
312	P0068-AS02- 031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	15:10	1	MCE Cassette	None	3882.6	Liters	N	9:10:00 AM	3:10:00 PM
316	P0068-AS03- 031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	15:10	1	MCE Cassette	None	3805.2	Liters	N	9:10:00 AM	3:10:00 PM
\$17	P0077-AS01- 031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	14:30	1	MCE Cassette	None	4018.95	Liters	N	8:00:00 AM	2:30:00 PM
318	P0077-AS02- 031814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/18/2014	14:30	1	MCE Cassette	Nоле	4024.8	Liters	N	8:00:00 AM	2:30:00 PM
319	P0077-AS03- 031814	Asbestos PCM (NIOSH 7400) and (EM(N)@SH:7402)	Air	3/18/2014	14:30	1	MCE Cassette	None	4017	Liters	N	8:00:00 AM	2:30:00 PM
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Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltulons.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all sumples all analysis	Wel Potes RST2	3/19/14 1500	Framile Mei BAMA UABORATIONES	डोक्ट्रोस् ६ व्यप	-

DateShipped: 3/20/2014 RFP# 279 **CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-032014-111142-0043

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti
7874IZ	P0073-AS01- 031914	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/19/2014	14:00	1	MCE Cassette	None	3769.2	Liters	N	8:00:00 AM	2:00:00 PM
416	P0073-AS02- 031914	Asbestos PCM (NIOSH 7400) and TEM:(NIOSH 7402)	Air	3/19/2014	14:00	1	MCE Cassette	None	3709.8	Liters	N	8:00:00 AM	2:00:00 PM
V417	P0073-AS03- 031914	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/19/2014	14:00	1	MCE Cassette	None	3832.2	Liters	N	8:00:00 AM	2:00:00 PM
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Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all analysis	Wellety RSTO	3/20/14 1400	Promis Mei BARRA HABORATORES	3/21/40 040	
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04/08/2014

DateShipped: 3/24/2014

RFP# 279

CHAIN OF CUSTODY RECORD

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-032414-131848-0045

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
787665	P0046-AS01- 032114	Asbestos PCM (NIOSH 7400) and EM(NIOSH 7402)	Air	3/21/2014	15:00	1	MCE Cassette	None	3543.31	Liters	N	8:50:00 AM	3:00:00 PM
l lub	P0046-AS02- 032114	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/21/2014	15:00	1	MCE Cassette	None	3736.63	Liters	N	8:50:00 AM	3:00:00 PM
167	P0046-AS03- 032114	Asbestos PCM (NIOSH 7400) and TIEM (NIOSH 7402)	Air	3/21/2014	15:00	1	MCE Cassette	None	3916.45	Liters	N	8:50:00 AM	3:00:00 PM
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Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples all anglisses	Wellety RST2	3/24/14 1430	Bonnie Mai BARA (ABORATIVEZS	3251480940	
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04/08/2014

RFP# 279A DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402 SITE: 0029-0122

DateShipped: 3/25/2014

RFP# 279

CHAIN OF CUSTODY RECORD

Site #: 0029 - 0122

Contact Name: Joel Petty
Contact Phone: 732-570-4943

No: 2-032514-124456-0048

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampi e Time	Numb Cont		Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
787696	P0004-AS01- 032414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7400)	Air	3/24/2014	15:50	. 1	MCE Cassette	None	3717	Liters	N	9:50:00 AM	3:50:00 PM
1847	P0004-AS02- 032414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)		3/24/2014	15:50	1	MCE Cassette	None	3717	Liters	N	9:50:00 AM	3;50;00 PM
698	P0004-A\$03- 032414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/24/2014	15:50	1	MCE Cassette	None	3738.6	Liters	N	9:50:00 AM	3:50:00 PM
699	P0079-AS01- 032412	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/24/2014	14:30	1	MCE Cassette	None	3693.6	Liters	N	8:30:00 AM	2:30:00 PM
700	P0079-AS02- 032414	Asbestos PCM (NIOSH 7400) and RBM (NIOSH 7402)	Air	3/24/2014	14:30	1	MCE Cassette	None	3655.8	Liters	N	8:30:00 AM	2:30:00 PM
V-201	P0079-AS03- 032414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7492)	Air	3/24/2014	14:30	1	MCE Cassette	None	3648,6	Liters	N	8:30:00 AM	2:30:00 PM
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Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
allamples	Welletty RST2	3/25/14 133	Bonnie Mci Borno ABORATORIES	अंदर्ग मृंद्धक्यक	
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04/08/2014

RFP# 279A DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402 SITE: 0029-0122

DateShipped: 3/26/2014 RFP# 279 **CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122 Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-032614-130037-0050

Cooler #: 1

RFP# 279A DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402

SITE: 0029-0122

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab	#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_TI me	Stop_Ti me
ित	749	FB-A-032514	Asbestos PCM (NIOSH 7400) and TEMP(NIOSH 7402)	Air	3/25/2014	08:15	1	MCE Cassette	None		Liters	N .	7:15:00 AM	7:15:00 AM
1 -	SZ	P0005-AS01- 032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	15:00	1	MCE Cassette	None	3722.4	Liters	N	9:00:00 AM	3:00:00 PM
	21	P0005-AS02- 032514	Asbestos PCM (NIOSH 7400) and FEM (NIOSH 74002)	Air	3/25/2014	15:00	1	MCE Cassette	None	3803.4	Liters	N	9:00:00 AM	3:00:00 PM
-	T52	P0005-AS03- 032514	Asbestos PCM (NIOSH 7400) and EM (NIOSH 7400)	Air	3/25/2014	15:00	1	MCE Cassette	None	3664.8	Liters	N	9:00:00 AM	3:00:00 PM
	J33	P0049-AS01- 032514	Asbestos PCM (NIOSH 7400) and Table (NIOSH 7402)	Air	3/25/2014	16:00	1	MCE Cassette	None	3610.8	Liters	N	10:00:00 AM	4:00:00 PM
1-	154	P0049-A\$02- 032514	Asbestos PCM (NIOSH 7400) and RM (NIOSH 7402)	Air	3/25/2014	16:00	1	MCE Cassette	None	3661.2	Liters	N .	10:00:00 AM	4:00:00 PM
V.	1 <b>2</b> 2	P0049-AS03- 032514	Asbestos PCM (NIOSH 7400) and CM (NIOSH 7400)	Air	3/25/2014	16:00	1	MCE Cassette	None	3848.4	Liters	N	10:00:00 AM	4:00:00 PM
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Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos Huertas@WestonSolutions.com, Joel,Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Reilnquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
alleamples	Wellety RST2	3176/14 1400	Bonnia Mei Bonna 191308070RES	3)27/14@1000	

DateShipped: 3/27/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-032714-112056-0053

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont		Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
18185h	P0186-AS01- 032614	Asbestos PCM (NIOSH 7400) and NEM (NIOSH97402)	Air	3/26/2014	15:15	1	MCE Cassette	None	3826.88	Liters	N	9:00:00 AM	3:15:00 PM
857	P0186-AS02- 032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	15:15	1	MCE Cassette	None	3836,25	Liters	N	9:00:00 AM	3:15:00 PM
828	P0186-AS03- 032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	15:15	1	MCE Cassette	None	3856.88	Liters	N	9:00:00 AM	3:15:00 PM
8:28	P0187-AS01- 032614	Asbestos PCM (NIOSH 7400) and (EM (NIOSH/7402))	Air	3/26/2014	16:00	1	MCE Cassette	None	3670.38	Liters	N	10:00:00 AM	4:00:00 PM
840	P0187-AS02- 032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	16:00	1	MCE Cassette	None	3650.04	Liters	N	10:00:00 AM	4:00:00 PM
√ 861	P0187-AS03- 032614	Asbestos PCM (NIOSH 7400) and (IEM (NIOSH 7402)	Air	3/26/2014	16:00	1	MCE Cassette	None	3713.4	Liters	N	10:00:00 AM	4:00:00 PM
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Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all anglish	Gel Patty RSTD	3/27/14 1330	Barrie Mrg: BATHY CABORATIONICS	3/28/14@10Zb	

04/08/2014

RFP# 279A DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402 SITE: 0029-0122

DateShipped: 3/28/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122 Contact Name: Joel Petty

Contact Phone: 732-570-4943

No: 2-032814-101327-0055

Cooler#: 1

RFP# 279A DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402 SITE: 0029-0122

BATT LABORATORIES, INC.

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti
787908	P0189-AS01- 032714	andstEM(NIOSH17402)	Air	3/27/2014	16:00	1	MCE Cassette	None	3677.4	Liters	N	10:00:00 AM	4:00:00 PM
909	P0189-AS02- 032714	and TEMI(NIOSHI7402)	Air	3/27/2014	16:00	1	MCE Cassette	None	3803.4	Liters	N	10:00:00 AM	4:00:00 PM
1910	P0189-AS03- 032714	Asbestos PCM (NIOSH 7400) and BEM (NIOSH 7402)	Air	3/27/2014	16:00	1	MCE Cassette	None	3839.4	Liters	N	10:00:00 AM	4:00:00 PM
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Special instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all samples	Juel Petty RST2	3/28/14 1130	Barnie Mia Barret URDIRATORIES	बुझान्छ।०३५	
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### **MISCELLANEOUS**

(Revised TEM 7402 Reports for RFP 279)

COC#:

2-030514-142736-0021

2-030614-131636-0023

2-030714-125911-0026

2-031014-111810-0028

DateShipped: 3/5/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-030514-142736-0021

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti
FB-A-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	08:14	1	MCE Cassette	None		Liters	N	8:14:00 AM	
LB-A-030414	Asbestos PCM (NIOSH 7400) and IEM NIOSH 7402)	Air	3/4/2014	08:13	1	MCE Cassette	None		Liters	N	8:13:00 AM	
P0006-AS01- 030414	Asbestos PCM (NIOSH 7400) and REM (NIOSH) 7402)	Air	3/4/2014	16:00	1	MCE Cassette	None	3646.8	Liters	N	10:00:00 AM	4:00:00 PM
P0006-AS02- 030414	Asbestos PCM (NIOSH 7400) and IEEM (NIOSH 7402)	Air	3/4/2014	16:00	1	MCE Cassette	None	3634.2	Liters	N	10:00:00 AM	4:00:00 PM
P0006-AS03- 030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH7402)	Air	3/4/2014	16:00	1	MCE Cassette	None	3632.4	Liters	N	10:00:00 AM	4:00:00 PM
P0047-AS01- 030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	17:15	1	MCE Cassette	None	3639.6	Liters	N	11:15:00 AM	5:15:00 PM
P0047-AS02- 030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Alr	3/4/2014	17:15	1	MCE Cassette	None	3596.4	Liters	N	11:15:00 AM	5:15:00 PM
P0047-AS03- 030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	17:15	1	MCE Cassette	None	3652.2	Liters	N	11:15:00 AM	5:15:00 PM
11 / lity												
	FB-A-030414  LB-A-030414  P0006-AS01-030414  P0006-AS02-030414  P0006-AS03-030414  P0047-AS01-030414  P0047-AS02-030414  P0047-AS03-030414	FB-A-030414 Asbestos PCM (NIOSH 7400) and EMINIOSH 7400)	FB-A-030414 Asbestos PCM (NIOSH 7400) Air and EM/NIOSH 7400)	FB-A-030414 Asbestos PCM (NIOSH 7400) Air 3/4/2014  LB-A-030414 Asbestos PCM (NIOSH 7400) Air 3/4/2014  P0006-AS01- Asbestos PCM (NIOSH 7400) Air 3/4/2014  P0006-AS02- Asbestos PCM (NIOSH 7400) Air 3/4/2014  P0006-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014  P0006-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014  P00047-AS01- Asbestos PCM (NIOSH 7400) Air 3/4/2014  P0047-AS02- Asbestos PCM (NIOSH 7400) Air 3/4/2014  P0047-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014  Asbestos PCM (NIOSH 7400) Air 3/4/2014  Asbestos PCM (NIOSH 7400) Air 3/4/2014  P0047-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014	FB-A-030414	FB-A-030414 Asbestos PCM (NIOSH 7400) Air 3/4/2014 08:14 1  LB-A-030414 Asbestos PCM (NIOSH 7400) Air 3/4/2014 08:13 1  P0006-AS01- Asbestos PCM (NIOSH 7400) Air 3/4/2014 16:00 1  P0006-AS02- Asbestos PCM (NIOSH 7400) Air 3/4/2014 16:00 1  P0006-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014 16:00 1  P0006-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014 16:00 1  P0006-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014 16:00 1  P00047-AS01- Asbestos PCM (NIOSH 7400) Air 3/4/2014 17:15 1  P0047-AS02- Asbestos PCM (NIOSH 7400) Air 3/4/2014 17:15 1  P0047-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014 17:15 1  P0047-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014 17:15 1  P0047-AS03- Asbestos PCM (NIOSH 7400) Air 3/4/2014 17:15 1	FB-A-030414	FB-A-030414	FB-A-030414	B Time   Cont   E   Units	B-A-030414	B-A-030414

Special instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Pelty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
alleangles affirmations	Jullety RSTƏ	3/5/14 1600	Bommi Mei BAMA UBORANCES	3HM6 0422	
	/				

RFP# 279A DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402 SITE: 0029-0122

DateShipped: 3/6/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122 Contact Name: Joel Petty

Contact Phone: 732-570-4943

No: 2-030614-131636-0023

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_TI me
784584	P0050-AS01- 030514	Asbestos PCM (NIOSH 7400) and item (NIOSH 7402)	Air	3/5/2014	16:30	1	MCE Cassette	None	3657.6	Liters	N	10:30:00 AM	4:30:00 PM
282	P0050-AS02- 030514	and REM (NOSH 7402)	Air	3/5/2014	16:30	1	MCE Cassette	None	3753	Liters	N	10:30:00 AM	4:30:00 PM
7.28%	P0050-AS03- 030514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/5/2014	16:30	1	MCE Cassette	None	3778.2	Liters	N	10:30:00 AM	4:30:00 PM
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Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
allanalyses	Welletta RST2	3/6/14 1430	Bommi The BATTOR UNRORATIONS	3174 0948	

RFP#'279A DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402 SITE: 0029-0122

DateShipped: 3/7/2014 RFP# 279 **CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122 Contact Name: Joel Petty

Contact Phone: 732-570-4943

No: 2-030714-125911-0026

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

TEM 7402

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti
786629	P0009-AS01- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3805,45	Liters	N	9:00:00 AM	3:10:00 PM
30	P0009-AS02- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3748.1	Liters	N	9:00:00 AM	3:10:00 PM
3)	P0009-AS03- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air -	3/6/2014	15:10	1	MCE Cassette	None	3783.25	Liters	N	9:00:00 AM	3:10:00 PM
32	P0069-AS01- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	4024.8	Liters	N	10:15:00 AM	4:45:00 PM
33	P0069-AS02- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	3927.3	Liters	N	10:15:00 AM	4:45:00 PM
¥34	P0069-AS03- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	3896.1	Liters	N	10:15:00 AM	4:45:00 PM
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Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutiona.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
allandes	guellety RST2	3/1/4 1400			
			Bo L-	03/88/4	

BATT LABORATORIES, INC.

RFP# 279A DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402 SITE: 0029-0122

DateShipped: 3/10/2014 RFP# 279 **CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-031014-111810-0028

Cooler#: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont		Preservativ e	Volume	Vol Units	Lab QC	Start_Ti	Stop_Ti
186813	FB-A-030814	Asbestos PCM (NIOSH 7400) and NEW (NIOSH 7402)	Air	3/8/2014	08:10	1	MCE Cassette	None .		Liters	N	8:10:00 AM	8:10:00 AM
874	P0008-AS01- 030814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3686.4	Liters	N	8:30:00 AM	2:30:00 PM
28	P0008-AS02- 030814	Asbestos PCM (NIOSH 7400) and IEW (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3636	Liters	N	8:30:00 AM	2:30:00 PM
876	P0008-AS03- 030814	Asbestos PCM (NIOSH 7400) and IEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3688.2	Liters	N	8:30:00 AM	2:30:00 PM
817	P0057-AS01- 030714	Asbestos PCM (NIOSH 7400) and JEM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3650.4	Liters	N	9:00:00 AM	3:00:00 PM
878	P0057-AS02- 030714	Asbestos PCM (NIOSH 7400) and IEM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassett <b>e</b>	None	3733.2	Liters	N	9:00:00 AM	3:00:00 PM
879	P0057-AS03- 030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3697.2	Liters	N	9:00:00 AM	3:00:00 PM
880	P0058-AS01- 030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3686.4	Liters	N	10:15:00 AM	4:15:00 PM
881	P0058-AS02- 030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3636	Liters	N	10:15:00 AM	4:15:00 PM
∫ 885	P0058-AS03- 030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3602.88	Liters	N	10:15:00 AM	4:15:00 PM
Joseph	Ettg												

Special instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
ull samples	Wel Petry RST2	3/10/14 1230,	Bonnie Mes ZATTY UNBORATTURE	CW 9 HIME	
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			•	*	

04/08/2014

RFP# 279A DATA PACKAGE: TEM ANALYSIS BY NIOSH 7402 SITE: 0029-0122

# Analytical Method, Counting Rules and Data Validation

Analytical Method: NIOSH 7402 – Asbestos by TEM, Issue 2, August 15, 1994.

Calculation of Analytical Sensitivity (S) Expressed in Fibers/cc or Structures/cc:

S = 1 Fiber or Structure x Total Effective Filter Area / (No. of Grids Openings Analyzed x Averaged Grid Opening Area x Air Volume in cc).

**Example:** For an air cassettes of 385 mm<sup>2</sup> effective area with volume of 3596.4 liters (field sample P0047-AS02-030414), the analytical sensitivity after 40 grid openings were analyzed for each opening that has an average area of 0.0094 mm<sup>2</sup> is:

S = 1 fiber x 385 mm<sup>2</sup> / (40 x 0.0094 mm<sup>2</sup> x 3596.4 liter x 1000 cc/liter) = 0.00028 fibers/cc or 0.00028 f/cc. The SOW requires 0.0004 f/cc be met.

Calculation of Fiber Density (D) Expressed in Fibers/ mm<sup>2</sup> or Structures/ mm<sup>2</sup>:

D = No. of Asbestos Fibers or Structures / (No. of Grids Openings Analyzed x Averaged Grid Opening Area)

**Example:** If only one (1) fiber was detected during the above analysis, the fiber density on the filter is:

D = 1 Fiber or Structure / (40 x 0.0094 mm<sup>2</sup>) = 2.65957 f/mm<sup>2</sup>.

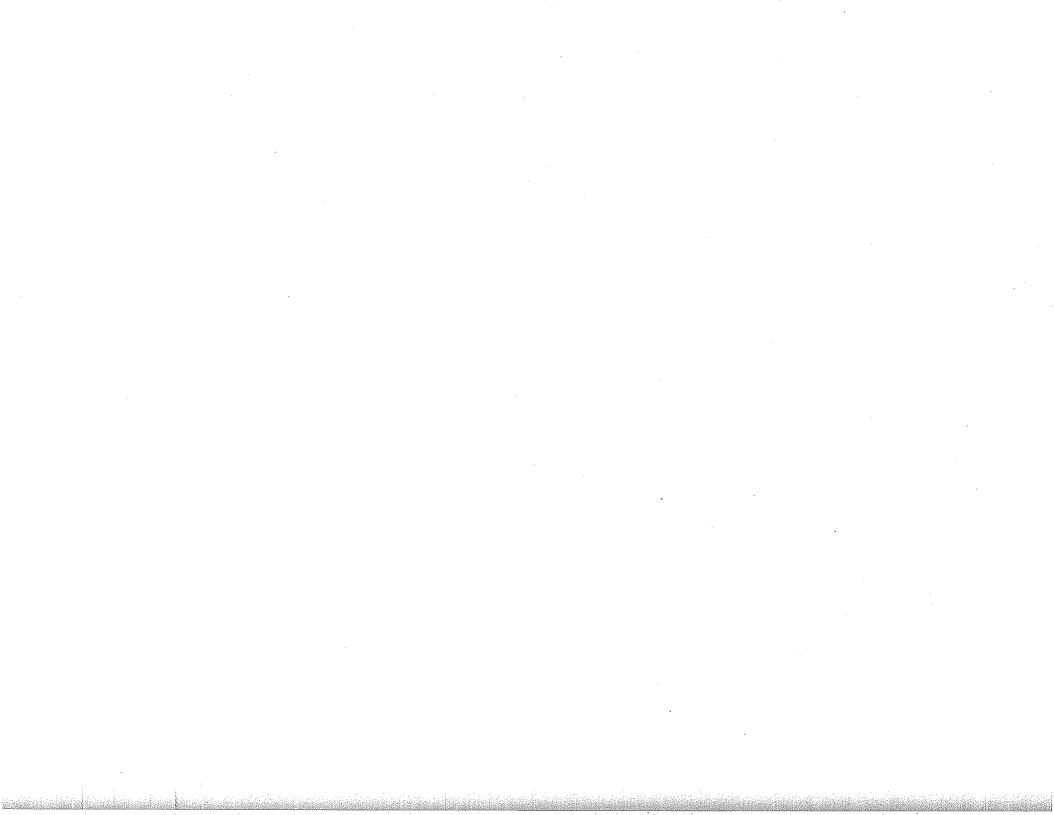
Calculation of Fiber Concentration (C) in the Air Expressed in Structures/cc:

C = (No. of Fibers or Structures Detected / Total PCME Fibers) x Fiber Concentration by PCM. PCME: PCM equivalent (fibers).

**Example:** For the above analysis, there was only one (1) asbestos structure detected over a total of 4 PCME fibers detected (see benchseets). The initial PCM result of this sample is 0.003 f/cc. Therefore, the air concentration by TEM is:

 $C = (1/4) \times 0.003$  f/cc = 0.00075 f/cc. Refer to PCM data package for PCM results.

Reporting Limit: the reporting limit of NIOSH 7402 is based on 0.5 fiber detected. For the above sample, the reporting limit is  $(0.5/4) \times 0.003$  f/cc, or 0.00038 f/cc. If there was not asbestos detected, the sample would be reported with the reporting limit preceded with the qualifier "<".



#### Bo Li

From:

Bo Li

Sent:

Thursday, March 06, 2014 2:23 PM

To:

'Sumbaly, Smita'

Cc:

Neeraj Batta (neeraj@battaenv.com); ncbatta@battaenv.com

Subject:

FW: Blow out damaged sample

Attachments:

photo.JPG; ATT00001.txt

Importance:

High

Hi Smita,

Please see attached photo showing the blown filter inside the cassette. This is usually an accidental damage in the field.

Regarding the overloaded filters, I suggest ISO 13794:1999 (E) method; which is an alternative version of ISO 10312:1995 E method when an air sample is overloaded.

Neeraj or Naresh will send you a quote in a few minutes. The price will be higher compared to the NIOSH7402 method because it involves indirect prep and much more grid openings to meet your 0.0004 s/cc sensitivity.

Bo.

----Original Message----

From: Angela Yohn

Sent: Thursday, March 06, 2014 2:04 PM

To: Bo Li; Angela Yohn

Subject: FW: Blow out damaged sample

Importance: High

Angela R. Yohn

Senior Level Laboratory Analyst Batta Laboratories 302.737.3376 x119

----Original Message----

From: Angela Yohn

Sent: Thursday, March 06, 2014 11:32 AM

To: Bo Li

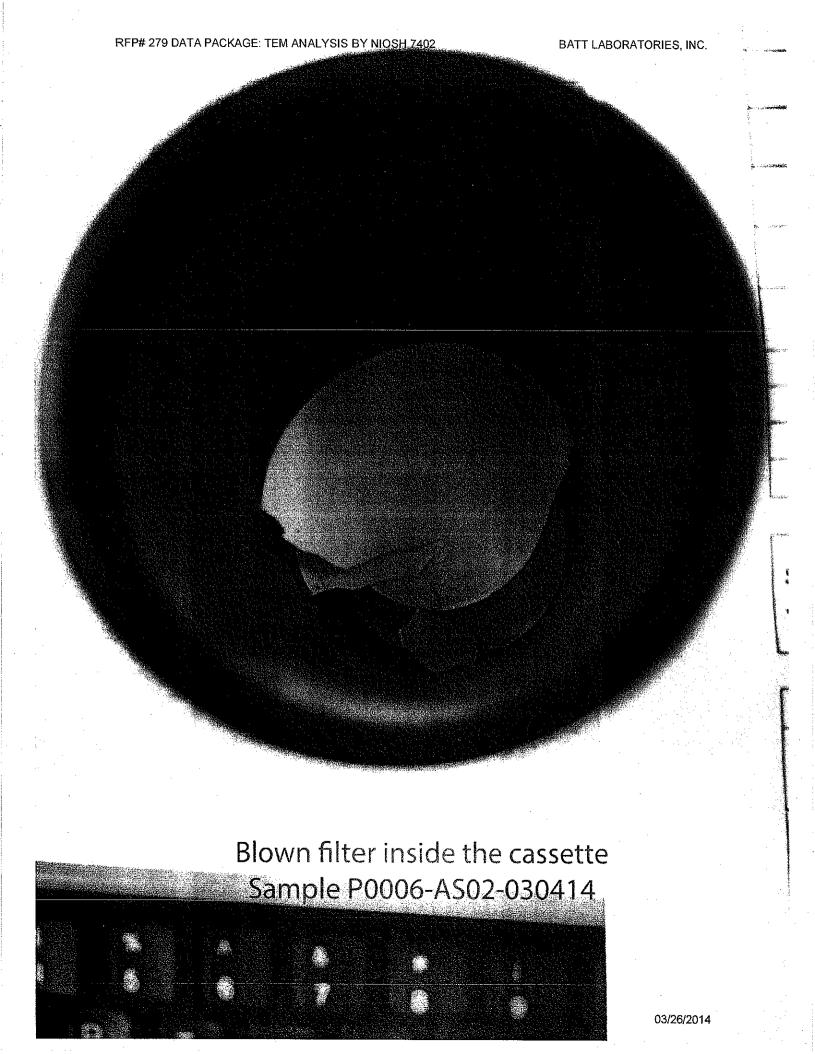
Subject: FW: Blow out damaged sample

Importance: High

This is sample P0006-AS02-030414.

Angela R. Yohn

Senior Level Laboratory Analyst Batta Laboratories 302.737.3376 x119



### **Nomenclatures**

Note: the following abbreviations may be used in the data package depending on their context:

Chry, Chrys, CH – Chrysotile Amph – Amphibole AC, ACT – Actinolite TR, Trem – Tremolite AN, Anth – Anthophyllite AM, Amo – Amosite CR, Croc - Crocidolite

# COMMON TERMINOLOGY AND DEFINITIONS FOR ASBESTOS ANALYSIS

Note to users: The terminology (including acronyms) listed in this section is generic and may not include all present in this data package. Reviewers are recommended to refer to a better reference if certain terminologies sought for were not included in this section.

AAR – Asbestos Analysts Registry; registry program offered through the AIHA to recognize and list analysts and laboratories who have achieved acceptable results in PCM analytical proficiency testing and laboratory QA operations.

AAT – Asbestos Analysts Testing; performance testing program for asbestos analysts who desire to be listed in the AAR.

ACCEPTANCE LIMITS - Established mathematical data quality limits for analytical method performance.

ACCURACY – The degree of agreement between an observed value and an accepted reference value.

Accuracy includes a combination of precision and bias.

See Precision and Bias.

ACICULAR – The shape of an extremely slender crystal with cross-sectional dimensions which are small relative to its length, i.e., needle-like.

ACTINOLITE - An amphibole silicate mineral, chemical formula Ca2(Mg,Fe)5Si8O22(OH)2.

AHERA – Asbestos Hazard Emergency Response Act. In 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law as Title II of the Toxic Substance Control Act. Additionally, the Asbestos School Hazard Abatement Reauthorization Act (ASHARA), passed in 1990, requires accreditation of personnel working on asbestos activities in schools, and public and commercial buildings.

AIHA – American Industrial Hygiene Association; association responsible for establishing Proficiency Analytical Testing (PAT), Laboratory Accreditation, and Registry Programs (e.g., Asbestos Analysts Registry). The AIHA programs are now operated by AIHA Proficiency Analytical Testing Programs, LLC; AIHA Laboratory Accreditation Programs, LLC; and AIHA Registry Programs, LLC.

AMOSITE (Grunerite) - a mineral of the amphibole group of minerals with chemical formula Fe7Si8O22(OH)2; also known as brown asbestos.

AMPHIBOLE – A group of double chain silicate minerals, closely related in crystal form and composition with the chemical formula: (A0 or 1)B2C5T8O22(OH,F,Cl2), where:

A = K, Na B = Fe2+, Mn, Mg, Ca, Na C = Al, Cr, Ti, Fe3+, Mg, Fe2+ T = Si, Al, Cr, Fe3+, Ti

AMPHIBOLE ASBESTOS – Amphibole in an asbestiform habit.

ANALYTICAL SAMPLE – A portion of material to be analyzed that is enclosed in a single container, received from an external source, and identified by a unique sample number. Airborne samples are collected on membrane filters and bulk/soil samples are placed in zip-lock bags.

ANALYTICAL SENSITIVITY – The smallest concentration of a substance that can be reliably measured by a given analytical method (e.g., the airborne asbestos concentration represented by one fiber or structure counted under the microscope). Analytical sensitivity is determined by the quantity of matrix collected and the proportion of the matrix examined.

ANISOTROPIC - Refers to substances that have more than one refractive index (i.e., are

birefringent), such as nonisometric crystals, oriented polymers, or strained isotropic substances.

ANTHOPHYLLITE- An amphibole mineral, magnesium iron inosilicate hydroxide, chemical formula (Mg,Fe)7Si8O22(OH)2.

ASBESTIFORM (MORPHOLOGY) – A specific type of mineral fibrosity in which the fibers and fibrils possess high tensile strength, flexibility, or long, thin fibers occurring in bundles.

ASBESTOS – The generic name used for a group of naturally occurring mineral silicate fibers of the serpentine and amphibole series, displaying similar physical characteristics although differing in composition.

ASBESTOSIS - A non-cancerous disease associated with inhalation of asbestos fibers and characterized by scarring of the air-exchange regions of the lungs.

ASBESTOS FIBER - A fiber of asbestos which meets the criteria specified for a fiber (see "fiber").

ASPECT RATIO – The ratio of the length of a fiber to its diameter, usually defined as length; width, e.g., 3:1 or 5:1 according to test methods (See ISO Rules, AHERA Rules and Libby Rules).

ASTM - American Society for Testing and Materials (Now known as ASTM International).

BECKE LINE – A band of light seen at the periphery of a specimen when the refractive indices of the specimen and the mounting medium are different; it is used to determine refractive index.

BIAS - A systematic error manifested as a consistent positive or negative deviation from the known or true value.

BINDER – With reference to a bulk sample, a component added for cohesiveness (e.g., plaster, cement, glue).

BIREFRINGENCE – The numerical difference between the maximum and minimum refractive indices of an anisotropic substance. Birefringence may be estimated, using a Michel-Levy Chart, from the interference colors observed under crossed polarizers. Interference colors are also dependent on the orientation and thickness of the grain, and therefore are used qualitatively to determine placement in one of the categories listed below:

Qualitative	Quantitative (N-n)
Weak	≤ 0.010
Moderate	0.011-0.025
Strong	0.026-0.100
Very Strong	0.101-0.200
Extreme	≥ 0.201
None	000 or Isotropic

BULK SAMPLE – A sample of building material taken for identification and quantitation of asbestos. Bulk building materials may include a wide variety of friable and non-friable materials.

BUNDLE – Asbestos structure consisting of three or more fibers having a common axis of elongation with each fiber closer than one fiber diameter.

CALIBRATION MATERIALS – Materials, such as known weight % standards, that assist in the calibration of microscopes in terms of ability to quantitate the asbestos content of bulk materials.

CAMERA LENGTH – With respect to TEM, the equivalent projection length between the specimen and its electron diffraction pattern, in the absence of lens action.

CDF - Complete Data Package File as defined in this SOW. A CDF includes the analytical sample

data, associated QC data, and all related evidentiary documentation for one Sample Set.

CERTIFIED REFERENCE MATERIAL – A reference material with one or more of the property values certified by a technically valid procedure, and accompanied by or traceable to a certificate or other documentation which is issued by a certifying body. See Reference Material.

CHRYSOTILE – The most prevalent type of asbestos also referred to as white asbestos. Chrysotile is a fibrous mineral of the serpentine group which has the nominal composition: Mg3Si2O5(OH)4

CLEAVAGE - The breaking of a mineral along one of its crystallographic directions.

CLEAVAGE FRAGMENTS - Mineral particles formed by comminution of minerals, especially those characterized by parallel sides and a moderate aspect ratio (usually less than 20:1).

CLUSTER – A structure in which two or more fibers or fiber bundles are randomly oriented in a connected grouping.

COLOR – The color of a particle or fiber when observed in plane polarized light.

COMPENSATOR – A device with known, fixed, or variable retardation and vibration direction used for determining the degree of retardation (hence the thickness or value of birefringence) in an anisotropic specimen. It is also used to determine the sign of elongation of elongated materials. The most common compensator is the first-order red plate (530-550 nm retardation).

CONTROL CHART – A graphical plot of test results with respect to time or sequence of measurement, together with limits within which the results are expected to lie when the system is in a state of statistical control.

CROCIDOLITE (Riebeckite) - A sodium-rich member of the amphibole group of silicate minerals, chemical formula Na<sub>2</sub>(Fe,Mg)<sub>5</sub>Si<sub>8</sub>O<sub>22</sub>(OH)<sub>2</sub>; also known as blue asbestos.

d-SPACING-Distance between identical adjacent and parallel planes of atoms in a crystal.

DETECTION LIMIT – The smallest concentration/amount of the component of interest that can be determined by a single measurement with a stated level of confidence.

DIFFERENTIAL COUNTING - The term applied to the practice of excluding certain kinds of fibers from a fiber count because they do not appear to be asbestos.

DISPERSION STAINING (FOCAL MASKING) — An optical means of imparting apparent or virtual color to transparent substances by the use of stops in the objective back focal plane; it is used to determine refractive indices.

DUPLICATE SAMPLES - Two samples taken from and representative of the same population and carried through all steps of the sampling and analytical procedures in an identical manner. Duplicate samples are used to assess variance of the total method including sampling and analysis.

ED – Electron Diffraction; a technique used to study matter by firing electrons at a sample and observing the resulting interference pattern.

EDD - Electronic Data Deliverables.

EDXA – Energy Dispersive X-ray Analysis.

EFA -Effective Filter Area.

ELAP – The Environmental Laboratory Approval Program (ELAP) of the Wadsworth Center was established in 1984, under Section 502 of the Public Health Law and is responsible for the certification of laboratories performing environmental analyses on samples originating from New York State, thus ensuring the accuracy and reliability of these analyses. Accurate and reliable environmental analyses are a matter of vital concern, affecting the public health, safety and welfare of all NYS residents. All environmental laboratories analyzing samples from the State of New York must be certified.

ELECTRON SCATTERING POWER – Extent to which a thin layer of substance scatters impinging electrons from their original directions.

ERROR - Difference between the true and the measured value of a quantity or parameter.

EUCENTRIC - Condition in which the area of interest of an object is placed on a tilting axis, at the intersection of the electron beam with that axis, and is in the plane of focus.

EXTINCTION – The condition in which an anisotropic substance appears dark when observed between crossed polars. This occurs when the vibration directions in the specimen are parallel to the vibration directions in the polarizer and analyzer. Extinction may be complete or incomplete; common types include parallel, oblique, symmetrical, and undulose.

EXTINCTION ANGLE – For fibers, the angle between the extinction position and the position at which the fiber is parallel to the polarizer or analyzer privileged directions.

F/cc - Fibers per cubic centimeter.

F/mm2 - Fibers per square millimeter.

FIBER - A particle that is 5  $\mu$ m or longer, with a length-to-width ratio of at least 3:1 for EPA Superfund Sites or 5:1 for AHERA or ISO 10312:1995(E), and with parallel or stepped sides. With reference to asbestiform morphology, a structure consisting of one or more fibrils.

FIBRIL – A single fiber of asbestos which cannot be further separated longitudinally into smaller components without losing its fibrous properties or appearance.

NOTE: A fiber bundle may exhibit diverging fibers at one or both ends.

FIBROUS STRUCTURE - Fiber, or connected grouping of fibers, with or without other particles.

FIELD – With respect to PCM analyses, the area within the graticule circle that is superimposed on the microscope image.

FIELD BLANK - An analyte-free matrix (e.g., sampling cassette, filter) carried to the sampling site, exposed to the sampling conditions and carried through all steps of the preparation and analysis. Field blanks may or may not be identified as such when delivered to the laboratory, and should be treated and reported as a routine sample.

FILTER LOT BLANK – An unopened sampling cassette with filter, or a filter from a new lot analyzed to verify that the matrix is contaminant-free.

FRIABLE – Refers to the cohesiveness of a bulk material, indicating that it may be crumbled or disaggregated by hand pressure.

FWHM – Full Width at Half Maximum; a measure of the width of a line in an emission or absorption spectrum. It is the width of the line at a point that is half the line's peak value. Used when measuring spectrum peaks in EDXA.

GRATICULE - A microscope slide or eyepiece that contains a grid of lines allowing the size of

objects seen under magnification to be measured. See Walton-Beckett Graticule.

GRAVIMETRY – Any technique in which the concentration of a component is determined by weighing. As used in this document, it refers to measurement of asbestos-containing residues after sample treatment by ashing, dissolution, etc.

GRID - An open structure on which a sample specimen is mounted to aid in its examination in a TEM.

HABIT – Characteristic crystal growth form (or combination of these forms) of a mineral, including characteristic irregularities.

HEPA FILTER - High Efficiency Particulate Air Filter.

HETEROGENEOUS – Lacking uniformity in composition and/or distribution of material; components not uniform. Does not satisfy the conditions stated for homogeneous; i.e., layered or in clumps, very coarse grained, etc.

HOMOGENEOUS – Uniform in composition and distribution of all components of a material, such that multiple subsamples taken for analysis will contain the same components in approximately the same relative concentrations.

INTER-ANALYST ANALYSIS – Quality control measure in which a field sample is analyzed/counted by two different microscopists.

INTERLABORATORY COMPARISONS - Evaluation of tests on the same or similar items by two or more laboratories.

INTERSECTION – Nonparallel touching or crossing of fibers, with the projection having an aspect ratio ≥ 5:I (AHERA).

INTRA-ANALYST ANALYSIS - Quality control measure in which a field sample is reanalyzed/recounted by the microscopist who performed the initial analysis/count.

ISO - International Organization for Standardization.

ISOTROPIC – Refers to substances that have a single refractive index such as unstrained glass, unoriented polymers and unstrained substances in the isometric crystal system.

IUR - Inhalation Unit Risk; the excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration 1 pg/m<sup>3</sup> in air.

LABORATORY BLANK – An unused filter, obtained from a filter lot shown to be free from contamination, which is exposed while a set of sample filters are processed, and is taken through all of the preparation, analysis, and reporting steps simultaneously with the sample set.

LAMDA ZERO (A0) – The wavelength of the dispersion staining color shown by a specimen in a medium; both the specimen and medium have the same refractive index at that wavelength.

LIMS - Laboratory Information Management System.

LOD-Limit of Detection. See Detection Limit.

MATRIX – FOR PLM: Non-asbestos, non-binder components of a bulk material. Includes such components as cellulose, fiberglass, mineral wool, mica, etc.

MATRIX - FOR TEM: Structure in which one or more fibers or fiber bundles touch, are attached to, or are partially concealed by a single particle or connected group of non-fibrous particles.

MCE - Mixed cellulose esters; one type of matrix for sample collection or sample analytical filters.

MESOTHELIOMA - A malignant tumor of the covering of the lung or the lining of the pleural and abdominal cavity often associated with exposure to asbestos.

METHOD BLANK - See Laboratory Blank.

MICHEL-LEVY SCALE OF RETARDATION COLORS – A chart plotting the relationship between birefringence, retardation, and thickness of anisotropic substances. Any one of the three variables can be determined if the other two are known.

MILLER INDEX – Set of either three or four integer numbers used to specify the orientation of a crystallographic plane in relation to the crystal axes.

MORPHOLOGY – The structure and shape of a particle. Characterization may be descriptive (e.g., platy, rod-like, acicular) or dimensional (e.g., length, diameter). See Asbestiform.

MSDS - Material Safety Data Sheet.

NADES - National Asbestos Data Entry Spreadsheet. NAM -

Non-Asbestos Mineral.

NIST - National Institute of Standards and Technology.

NONEMPTY POINT - The visual superposition of a point over any material in the slide preparation.

NVLAP – National Voluntary Laboratory Accreditation Program; program administered by NIST that accredits testing and calibration laboratories.

OUTLIER – A result that is outside the statistical control limits determined for a sample.

PC – Polycarbonate; one type of matrix for sample collection or sample analytical filters,

PCM – Phase Contrast Microscopy.

PCM-EQUIVALENT FIBER or STRUCTURE – Fiber or fibrous structure with an aspect ratio  $\geq 3:1$ , longer than 5  $\mu$ m, and a diameter greater than 0.2  $\mu$ m.

PDF - Portable Document Format; a file format for electronic document exchange.

PLEOCHROISM – The change in color or hue of colored anisotropic substance when rotated relative to the vibration direction of plane polarized light.

POINT COUNTING – A technique used to determine the relative projected areas occupied by separate components in a microscope slide preparation of a sample. For asbestos analysis, this technique is used with PLM to determine the relative concentrations of asbestos minerals to non-asbestos sample components.

POLARIZATION COLORS – Interference colors displayed by anisotropic substances between two polarizers. Birefringence, thickness, and orientation of the material affect the colors and their intensity.

PLM - Polarized Light Microscopy.

PRECISION - The degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to one another. Precision is often expressed as standard deviation, variance, or range, in either absolute or relative terms.

PREPARATION BLANK - See Laboratory Blank.

PRIMARY STRUCTURE – Fibrous structure that is a separate entity in a TEM image.

PAT – Proficiency Analytical Testing; refers to multi-laboratory performance testing program(s), such as the programs operated by AIHA Proficiency Analytical Testing Programs, LLC. See Interlaboratory Comparisons.

PT SAMPLES - Proficiency Testing samples; materials prepared and distributed to multiple laboratories, and utilized to determine laboratory accuracy/bias and interlaboratory precision.

QATS – Quality Assurance Technical Support; a contract awarded and administered by the USEPA Office of Superfund Remediation and Technology Innovation (OSRTI) Analytical Services Branch (ASB) to provide QA support for EPA's Contract Laboratory Program (CLP).

QMP – Quality Management Plan; an EPA-developed tool for documenting how a laboratory plans, implements, and assesses the effectiveness of its quality assurance and quality control operations applied to environmental programs. The development, review, approval, and implementation of the QMP are components of USEPA's mandatory Quality System.

REFERENCE MATERIAL – A material or substance, one or more properties of which are sufficiently well established to be used for equipment calibration, assessment of a measurement method, or for assigning values to materials.

RI – Refractive Index (Index of Refraction); ratio of the velocity of light in a vacuum relative to the velocity of light in a medium. It is expressed as n and varies with wavelength and temperature.

REPLICATION - Procedure in electron microscopy specimen preparation in which a thin copy, or replica, of a surface is made.

ROUND ROBIN - Interlaboratory quality control program wherein three or more independent organizations exchange samples. Each organization analyzes the samples and a statistical comparison is performed on the data to access the variability of fiber-counting measurements between organizations.

Contractors analyzing samples under this SOW must participate in a minimum of two interlaboratory analytical events annually.

S/cc - Structures per cubic centimeter.

SAED – Selected Area Electron Diffraction; technique in electron microscopy in which the crystal structure of a small area of a sample is examined.

SAMPLE SET – A group of samples and associated blanks which are collected at one site or geographical area, received by the laboratory on one given day, and assigned one laboratory job number.

The analytical, QC data, and evidentiary documents from a sample set comprise a Complete Data Package File (CDF).

SEM - Scanning Electron Microscopy.

SERPENTINE – A group of common rock-forming minerals having the nominal formula: Mg3Si2O5(OH)4

Minerals from this family that are important in asbestos analysis include chrysotile, lizardite, and antigorite.

SIGN OF ELONGATION – Referring to the location of the high and low refractive indices in an elongated anisotropic substance. A specimen is described as positive when the higher refractive index is lengthwise (length slow), and as negative when the lower refractive index is lengthwise (length fast).

SOP – Standard Operating Procedure; an EPA-developed tool which provides a standardized method for documenting routine quality system management and technical activities.

SOW - Statement of Work.

SRM – Standard Reference Material; a reference material certified and distributed by the National Institute of Standards and Technology (NIST).

STRUCTURE - A microscopic fiber, fiber bundle, cluster, or matrix which may contain asbestos.

TEM - Transmission Electron Microscopy.

TREMOLITE - A member of the amphibole group of silicate minerals, chemical formula Ca2Mg5Si8O22(OH)2.

TWINNING - Occurrence of crystals of the same species joined together at a particular mutual orientation, such that the relative orientations are related by a definite law.

UICC - Union Internationale Contre le Cancer; potential source of asbestos reference material.

UNOPENED FIBER - Large-diameter asbestos fiber bundle which has not been separated into its constituent fibrils or fibers.

VERIFIED ANALYSIS – Check of accuracy in analyzing a TEM specimen through independent counts of a single grid opening by multiple analysts.

VERMICULITE - A chemically inert, lightweight, and fire-resistant magnesium silicate material that is used for thermal and sound insulation in construction and for its absorbent properties in horticultural applications.

VISUAL ESTIMATION – An estimation of the concentration of asbestos in a sample as compared to the other sample components. Utilized in PLM analyses.

WALTON-BECKETT GRATICULE - An eyepiece graticule designed for PCM asbestos fiber counting. It consists of a circle with a projected diameter of  $100 \pm 2$   $\mu m$  (area of about  $0.00785 \text{ mm}^2$ ) with a crosshair having tic-marks at  $3-\mu m$  intervals in one direction and  $5-\mu m$  in the orthogonal direction.

WIPE SAMPLE - A wipe sample consists of using a wipe and a wetting agent that is wiped over a specified area using a template. The wipe picks up settled dust in the template area and its analysis provides an estimate of the number of fibers per area.

ZONE-AXIS – Line or crystallographic direction through the center of a crystal which is parallel to the intersection edges of the crystal faces defining the crystal zone.



### AIHA Laboratory Accreditation Programs, LLC

acknowledges that

#### Batta Laboratories, Inc.

Delaware Industrial Park, 6 Garfield Way, Newark, DE 19713-3540

Laboratory ID: 100448

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

#### LABORATORY ACCREDITATION PROGRAMS

✓ INDUSTRIAL HYGIENE

✓ ENVIRONMENTAL LEAD
☐ ENVIRONMENTAL MICROBIOLOGY

FOOD

Accreditation Expires: 11/01/2014 Accreditation Expires: 11/01/2014

Accreditation Expires:

Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

whom full stay for

S. D. Allen Iske, PhD, CIH, CSP Chairperson, Analytical Accreditation Board Cheryl O. Morton

Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 12: 03/29/2012

Date Issued: 11/30/2012

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United States Department of Commerce National Institute of Standards and Technology



## Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101032-0

Batta Laboratories, Inc.

Newark, DE

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

### AIRBORNE ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2013-07-01 through 2014-06-30

Effective dates



For the National Institute of Standards and Technology



## **Batta Data Package Checklist**

Company:	Batta Labo	ratories, Inc.		EPA ID#:	DE 004
EPA CASE#:	RFP 279			LAB PROJ#:	L6888F & L6888G
EPA SDG#:	MULTIPLE			Date Received:	MULTIPLE
Total Units:	12			Revision #:	INITIAL
Data Package T	ype: [	Particle Size	☐ Molsture	Sample Matrix	☐ Bulk
X	coc	X	Prep Shee	t See	narrative EDD
X	_QA Data	X	Bench She	eet	NA MISC.
Case Narrative:	•		•		
through Weston matrix information	Solutions, Inc on are docum These sample	c. Date of sampl ented on the cli	e receiving and sa ent provided COC	(s), EPA Region 2 S	ogether with sample
Fibres-Indirect Ti however, due to serial dilutions, t terminated at th first) based on th	ransfer Electr heavy partic he sensitivity e 50th grid o ne EPA Superi	on Microscopy Mulate loading (>5 of some sample pening (GO) ana fund convention	Method. The targ 10% filter coverage is could not be pro- lyzed or the 100th s. As courtesy, fo	e regardless of part actically met. In th I structures counte I samples that have	on of Asbestos  s analysis is 0.0004 s/cc; ticulate thickness) and is case, analysis may be d (whichever comes e no fibers detected, lab ne fiber is detected up
EDDs will be sen the following ma Summary Report Reanalysis, Stand	t separately i inner: EPA Re t of Analysis, dard Analysis erminology a	n a later package gion 2 DC-2 For EPA Region 2 DC , Calibrations an nd the routine T	e. This hardcopy on, Batta Check Lis -1 Form, Counting d Routines, and N EM standard anal	data package is org t (w/ case narrativ g Rules, Data Valid ADES Data Sheet a	oth hard copies and anized with sections in es), SDG Cover Sheet, ation and Calculation, nd Report. For o the previous data
			h. D., Batta Labor : bo.li@battaenv.		rare Industrial Park, 6
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Print Name	<b>:</b> :	Bo Li	Date:	04/01/2	2014

### **SUMMARY REPORT OF ANALYSIS**

BY

ISO 13794:1999(E) - Indirect Transfer TEM Method

Dedicated to a Cleaner Environment Since 1982



#### BATTA LABORATORIES, INC. A Certified MBE Company

Delaware Industrial Park - 6 Garfield Way - Newark, DE 19713-5817 (302) 737-3376 - Fax (302) 737-5764

Kevex

Web: www.battaenv.com E-mail: battaenv@battaenv.com

E.P.A. LAB ID# DE004

FORFOLABORATOR

A.I.H.A./NLLAP #100448

NVLAP #101032

#### SAMPLE SUMMARY REPORT

Revision#:

Batch #:

COC#: MULTIPLE

5250

Test Method: (SO 13794:1999(F)

Prep Method: ISO 13794:1999(E)

PAGE 1 OF 2

**General Information** 

Oate Sampled: MULTIPLE

Instruments: Scope Model:

JEM 100CX II Magnification, 19,000

Operational Condition: Det;Window: 0,008 mm

Normal

BLI Project #: L6888F

Project Name: WESTON SOLUTIONS, INC. - RST 2 RFP 279

CLIENT

Det Area: 10 mm² Sampling Location: PUERTO RICO Date Received: MULTIPLE

Report Date:

MULTIPLE

Analytical Data

Primary Filter Area (mm²): Date Prepped: 3/17/2014 2nd Filter Area (mm²);

Sampled by:

346

Analyzer:

Media: MCE

Date Analyzed: 3/20-21/2014

Grid Area (mm²): 0.013 Analyzed By: AY

Prepped By: JX Sample ID and Prep Information Analytical Data Results Total # of Grid Openings Target Reported Air Air Reported Reported Field Sample QA Asbestos Dilution Lab Sample Number of Sample Type-Prep volume Mineral Type Area Analyzed Sensitivity Sensitivity Concentration Filter Density Number Factor Structures Number Туре (L) Detected (mm²) (s/m m²) Detected (s/cc) (S/CC) (s/cc) FIELD P0006-AS01-786567 SAMPLE 0.253646.8 48 CH 0.00040 0.00057 0.02748 260,25739 030414 0.663 INDIRECT FIELD VDID-VOID-P0006-AS02-NOT NOT NOT 786568 SAMPLE 3634.2 N/A DAMAGED DAMAGED 0.0004 0.000 030414 ANALYZED ANALYZED ANALYZED FILTER FILTER FIELD 41 P0006-AS03-SAMPLE 786569 0.25 3632 4 106 CH 0.00040 0.00071 0.07577 714.91435 030414 0.533 INDIRECT FIELD 96 20069-AS01-786632 SAMPLE 0.25 4024.8 17 0.00040 0.00028 CH, AN, AC 0.00468 48.96770 030614 1.248 INDIRECT FIELD 87 P0069-AS02-786633 SAMPLE 0.25 3927.3 3 CH, AC 0.00040 0.00031 0.00093 9.53529 030614 1.131 INDIRECT 73 FIELD P0069-AS03-786634 SAMPLE 0.25 3896.1 2 TR D 00040 0.00037 0.00075 7.57599 030614 0.949 INDIRECT FIELD 76 P0008-AS01-786874 SAMPLE 0.25 3686.4 10 CH, AN 0.00040 0.00038 0.00380 36.38467 0.988 030814 INDIRECT FIFLD 50 P0008-AS02-SAMPLE 0.25 786875 3636 59 CH 0.00040 0.00059 0.03455 326.29770 030814 0.650 INDIRECT FIELD 73 P0008-AS03-786876 SAMPLE 0.25 3688.2 14 CH 0.00040 0.00040 0.00554 53.03190 030814 0.949 INDIRECT

Rev. 1: Combining samples under the same prep batch to one summary report. The number of G.O.s of the following samples were revised without significant impact on the final air concentration: 786567, 786569, 786633 and 786876.

Analyst(s): J. XU & A. YOHN

Reviewed By:

1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN; Anthophyllite; AM; Amosite

2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos fibers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.

3. Some samples may be analyzed and/or prepoed by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.

4. This summary report may not included all information submitted by clients. Furthermore, Batta will not be responsible for results that are due to improper sample collection and inaccurate data provided by clients.

5. This summary report precedes all electronic versions of any kinds, including copies in full or in part.

6. This summary report does not constitute endorsement by NVLAP and/or any other U.S. government agencies. The test data pertain only to the items tested. No assumptions or conclusions should be made to materials or samples not analyzed.

Dedicated to a Cleaner **Environment Since 1982** 



#### BATTA LABORATORIES, INC. A Certified MBE Company

Delaware Industrial Park - 6 Garfield Way - Newark, DE 19713-5817 (302) 737-3376 - Fax (302) 737-5764

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E.P.A. LAB ID# DE004

AIHALAPILO

FORTED L'ARORATORS

A.I.H.A./NŁLAP #100448

NVŁAP #101032



### SAMPLE SUMMARY REPORT

Revision#: 1

COC#:

Batch #:

2-031114-112802-0031

Prep Method: ISO 13794:1999(E)

**General Information** 

5254

Test Method: ISO 13794:1999(E)

JEM 100CX IL Magnification: 19,000

Operational Condition: Det. Window: 0.008 mm Normal

BLI Project #: L6888F

Instruments: Scape Model: Analyzer: Kevex

Det. Area: 10 mm² Sampling Location: PUERTO RICO

Project Name: WEST ON SOLUTIONS, INC. - RST 2 RFP NO. 279

Date Sampled: 3/10/2D14

Sampled by:

Client

Date Received: 3/12/2014

Report Date:

3/24/2014

**Analytical Data** 

Primary Filter Area (mm²):

2nd Filter Area (mm2):

962

Media: MCE

Grid Area (mm²): 0.013

PAGE 2 OF 2

Date Prepped: 3/24/2014

Prepped By: AY/JX

Date Analyzed: 3/24/2014

Analyzed By: AY

	Sample ID and Prep Information					Analytic	al Data	Results			
Lab Sample Number	Field Sample Number	Sample QA Type-Prep Type	Dilution Factor	Aîr Volume (L)	# of Grid Openings Area Analyzed (m m²)	Total Number of Structures Detected	Asbestos Mineral Type Detected	Target Sensitivity (s/cc)	Reported Sensitivity (s/cc)	Reported Air Concentration (s/cc)	Reported Filter Density (s/mm²)
786919	P0008-AS04 031014	FIELD SAMPLE INDIRECT	0.25	3619.8	39 0.507	100	СН	0.00040	0.00210	0.20967	1971.36197
786920	P0008-AS05 031014	FIELD SAMPLE INDIRECT	0.25	3724.2	15 0.195	100	СН	0.00040	0.00530	0.52987	5125.54113
786921	P0008-AS06 031014	FIELD SAMPLE INOIRECT	0.25	3765.5	50 0.650	67	. сн	0.00040	0.00157	0.10534	1030.23377

Rev. 1: The number of asbestos fibers corrected on 786921; correct result is 67 (was previously 68)

Analyst(s): J.XU

Reviewed By:

#### \*NOTE:

- 1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite
- 2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos libers-Indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dirution details.
- 3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.
- 4. This summary report may not included all information submitted by clients. Furthermore, Batta will not be responsible for results that are due to improper sample collection and inaccurate data provided by clients.
- 5. This summary report precedes all electronic versions of any kinds, including copies in full or in part.
- 6. This summary report does not constitute endorsement by NVLAP and/or any other U.S. government agencies. The test data pertain only to the items tested. No assumptions or conclusions should be made to materials or samples not analyzed,

DateShipped: 3/5/2014

CHAIN OF CUSTODY RECORD Site #: 0029 - 0122 No: 2-030514-142736-0021

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

0.000

RFP# 279 Contact Name: Joel Petty
Contact Phone: 732-570-4943

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont		Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
786262	FB-A-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	08:14	1	MCE Cassette	None		Liters	N	8:14:00 AM	
566	LB-A-030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	08:13	1	MCE Cassette	None		Liters	N	8:13:00 AM	
*Sb <sup>-1</sup>	P0006-AS01- 030414	Asbestos PCM (NIOSH 7400) and TEM:(NIOSH 7402)	Air	3/4/2014	16:00	1	MCE Cassette	None	3646.8	Liters	N	10:00:00 AM	4:00:00 PM
258	P0006-AS02- 030414	Asbestos PCM (NIOSH 7400) and NEM (NIOSH 7402)	Air	3/4/2014	16:00	1	MCE Cassette	None	3634.2	Liters	N	10:00:00 AM	4:00:00 PM
ফুল	P0006-AS03- 030414	Asbestos PCM (NIOSH 7400) and EM(NIOSH 7402)	Alr	3/4/2014	16:00	. 1	MCE Cassette	None	3632.4	Liters	N	10:00:00 AM	4:00:00 PM
220	P0047-AS01- 030414	Asbestos PCM (NIOSH 7400) and EM (NIOSH 7402)	Air	3/4/2014	17:15	1	MCE Cassette	None	3639.6	Liters	N	11:15:00 AM	5:15:00 PM
165	P0047-AS02- 030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	17:15	1	MCE Cassette	None	3596.4	Liters	N	11:15:00 AM	5:15:00 PM
7 215	P0047-AS03- 030414	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/4/2014	17:15	1	MCE Cassette	None	3652.2	Liters	N	11:15:00 AM	5:15:00 PM
	Al litter												
											] ]		

Special Instructions: 24 Hour TAT Prellminary Data. Email results to Carlos. Huertas@WestonSolutions.com, Joei.Petty@WestonSolutions.com, and S.Sumbaly@WestonSolutions.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt	
alloamples	Just Peter RST2	3/5/14 1600	Bonni Mei BATTA UBURATURIES	319IME 0622		
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RFP# 279 DATA PACKAGE: TEM ANALYSIS BY ISO 13794:1999(E)

DateShipped: 3/7/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122

Contact Name: Joel Petty

Contact Phone: 732-570-4943

No: 2-030714-125911-0026

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont		Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
786629	P0009-AS01- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3805.45	Liters	N	9:00:00 AM	3:10:00 PM
30	P0009-AS02- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15:10	1	MCE Cassette	None	3748.1	Liters	N	9:00:00 AM	3:10:00 PM
3)	P0009-AS03- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	15;10	1	MCE Cassette	None	3783,25	Liters	N	9:00:00 AM	3;10;00 PM
32	P0069-AS01- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	4024.8	Liters	N	10:15:00 AM	4:45:00 PM
33	P0069-AS02- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	3927.3	Liters	N	10:15:00 AM	4:45:00 PM
V34	P0069-AS03- 030614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/6/2014	16:45	1	MCE Cassette	None	3896,1	Liters	N	10:15:00 AM	4;45:00 PM
					†								
	10.00												
/w	d Lothy												
7			<u> </u>					l					<u> </u>

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltuions.com

SAMPLES TRANSFERRED FROM **CHAIN OF CUSTODY #** 

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
allandyses	guel Petty RST2	3/7/4 1400			
			Bo L	03/28/4	

04/02/2014

RFP# 279 DATA PACKAGE: TEM ANALYSIS BY ISO 13794:1999(E)

DateShipped: 3/10/2014

RFP# 279

CHAIN OF CUSTODY RECORD

Site #: 0029 - 0122

Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-031014-111810-0028

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti
<i>ક્ટન્ટ્ર</i> ડ	FB-A-030814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/8/2014	08:10	1	MCE Cassette	None		Liters	N	8:10:00 AM	8:10:00 AM
874	P0008-AS01- 030814	Asbestos PCM (NIOSH 7400) and PEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3686.4	Liters	N	6:30:00 AM	2:30:00 PM
48	P0008-AS02- 030814	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3636	Liters	N	8:30:00 AM	2:30:00 PM
876	P0008-AS03- 030814	Asbestos PCM (NIOSH 7400) and EM (NIOSH 7402)	Air	3/8/2014	14:30	1	MCE Cassette	None	3688.2	Liters	N	8:30:00 AM	2:30:00 PM
877	P0057-AS01- 030714	Asbestos PCM (NIOSH 7400) and IEM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3650.4	Liters	N	9:00:00 AM	3:00:00 PM
818	P0057-AS02- 030714	Asbestos PCM (NIOSH 7400) and EM (NIOSH 7402)	Air	3/7/2014	15:00	1	MCE Cassette	None	3733.2	Liters	N	9:00:00 AM	3:00:00 PM
879	P0057-AS03- 030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	15:00	. 1	MCE Cassette	None	3697.2	Liters	N	9:00:00 AM	3:00:00 PM
880	P0058-AS01- 030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3686.4	Liters	N	10:15:00 AM	4:15:00 PM
881	P0058-AS02- 030714	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/7/2014	16:15	1	MCE Cassette	None	3636	Liters	N	10:15:00 AM	4:15:00 PM
882	P0058-AS03- 030714	Asbestos PCM (NIOSH 7400) and TEMI(NIOSH7/402)	Air	3/7/2014	16:15	. 1	MCE Cassette	None	3602.88	Liters	N	10:15:00 AM	4:15:00 PM
free	PATA												

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joei.Petty@WestonSolutions.com, and S.Sumbaly@WestonSoltulons.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
ultramples	Jul Petty RST2	3/10/14 1230.	Bornie Mei Brons UABORATORE	3/11/4 @ 10/10/E	
no et more y jais					

RFP# 279 DATA PACKAGE: TEM ANALYSIS BY ISO 13794:1999(E)

DateShipped: 3/11/2014

RFP# 279

CHAIN OF CUSTODY RECORD

Site #: 0029 - 0122

Contact Name: Joel Petty

Contact Phone: 732-570-4943

No: 2-031114-112802-0031

Cooler#: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

∟ab#	Sample #	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
86919	P0008-AS04- 031014	Asbestos PCM (NIOSH 7400) and Ref. (NIOSH 7400)	Air	3/10/2014	15:15	1	MCE Cassette	None	3619.8	Liters	N	9:15:00 AM	3:15:00 PM
etzo	P0008-AS05- 031014	Asbestos PCM (NIOSH 7400) and Power (NIOSH 7400)	Air	3/10/2014	15:15	1	MCE Cassette	None	3724.2	Liters	N	9:15:00 AM	3:15:00 PM
92	P0008-AS06- 031014	Asbestos PCM (NIOSH 7400) and (CLA (NIOSH 7400)	Air	3/10/2014	15:15	1	MCE Cassette	None	3765.6	Liters	N	9:15:00 AM	3:15:00 PM
922	P0076-AS01- 031014	Asbestos PCM (NIOSH 7400) and REM (NIOSH 7402)	Air	3/10/2014	14:15	1	MCE Cassette	None	3646.8	Liters	N	8:15:00 AM	2:15:00 PM
923	P0076-AS02- 031014	Asbestos PCM (NIOSH 7400) and EM (NIOSH 7400)	Alr	3/10/2014	14:15	1	MCE Cassette	None	3645	Liters	N	8:15:00 AM	2:15:00 PM
4 4724	P0076-AS03- 031014	Asbestos PCM (NIOSH 7400) and PM (NIOSH 7400)	Air	3/10/2014	14:15	1	MCE Cassette	None	3709.8	Liters	N	8:15:00 AM	2:15:00 PM
	Metty												
4	Will be												

Special Instructions: 24 Hour TAT Preliminary Data. Email results to Carlos.Huertas@WestonSolutions.com, Joel.Petty@WestonSolutions.com, and S.Sumbaiy@WestonSoltuions.com

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY#

Items/Reason	Reilnquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
allowalyze,	IrelPeter RSTO	3/11/14 1400	Bomie Mei BATTA URBIRATORES	अधापहुन्त	
7-27					
		,			
		·			



## **Batta Data Package Checklist**

Company:	Batta Laborat	ories, Inc.		EPA ID#:	DE 004			
EPA CASE#:	RFP 279A			LAB PROJ#:	L6888G			
EPA SDG#:	MULTIPLE			Date Received:	MULTIPLE			
Total Units:	8			Revision #:	INITIAL			
Data Package T	ype: [	Particle Size	☐ Moisture ☑ TEM	Sample Matrix:	Bulk Air Water			
X	_coc	X	Prep Shee	SeeSee	narrative EDD			
X	_QA Data	X	Bench She	et	NA MISC.			
Case Narrative								
are documented samples were up overloaded durii The method utili	on the client prograded from sang their initially ized for the anal	ovided COC(s mples previou required sam ysis is ISO 137	.), EPA Region 2 SE usly received for N ple prep and analy 794:199(E): Ambie	PG forms and/or cu IOSH 7402 analysis rsis. nt Air-Determinatio	ple matrix information stody forms. These that were deemed on of Asbestos analysis is 0.0004 s/cc;			
however, due to serial dilutions, t terminated at th first) based on th	heavy particula he sensitivity of le 50th grid ope ne EPA Superfun	te loading (>5 some sample ning (GO) ana d convention	50% filter coverage es could not be pro lyzed or the 100th s. As courtesy, for	e regardless of part actically met. In thi structures counted samples that have	iculate thickness) and s case, analysis may be d (whichever comes no fibers detected, lab ne fiber is detected up			
EDDs (in EPA Reporganized with s narratives), SDG Reanalysis and E Report. For info	gion 2 format) wections in the fo Cover Sheet, Su Blank Analysis, D Irmation on tern	rill be sent sep bllowing mann Immary Repo ata Validation Innology and	parately in a later ner: EPA Region 2 rt of Analysis, EPA n, Calibrations and	package. This hard DC-2 Form, Batta C Region 2 DC-1 For	m, Lab Prep Sheet, DES Data Sheet and			
			h. D., Batta Labor : bo.li@battaenv.		are Industrial Park, 6			
Signatur	e:	Mi	Title:	Manag	jer			
Print Name	e:	Bo Li	Date:	04/10/2	014			

## **SUMMARY REPORT OF ANALYSIS**

BY

ISO 13794:1999(E) - Indirect Transfer TEM Method

Dedicated to a Cleaner **Environment Since 1982** 



BATTA

BATTA LABORATORIES, INC. A Certified MBE Company

Delaware Industrial Park - 6 Garfield Way - Newark, DE 19713-5817 (302) 737-3376 - Fax (302) 737-5764 Web: www.battaenv.com E-mail: battaenv@battaenv.com

#### SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVLAP #101032

Revision#: 2

COC#:

2-032614-130037-0050

Batch #:

T5277

Test Method: ISO 13794: 1999 (E), Indirect prep

Prep Method: iSO 13794: 1999 (E), Indirect prep

**General Information** 

BLI Project #: L6888G Project Name:

Weston Solutions 3/25/2014 Date Sampled:

Sampled by:

Client

Sampling Location: 0029-0122

Date Received:

3/27/2014

Report Date:

4/1/2014

**Analytical Data** 

Primary Filter Area (mm²): 385 Date Prepped: 3/31/2014

2nd Filter Area (mm2):

Prepped By: JX

962

Media: MCE Date Analyzed: 3/31, 4/2/2014

opeModel: SEMS1000X(ICMagnification 191000)

Grid Area (mm²): 0.0130

Analyzed By: JX & ARY

	Sample ID and	Prep Inform	ation				Results					
Lab Sample Number	Field Sample Number	Sampie QA Type-Prep Type	Dilution Factor	Air Voiume (L)	# of Grid Openings  Area Analyzed  (mm²)	Total Number of Structures Detected	Asbestos Mineral Type Detected	Target Sensitivity (s/cc)	Reported Sensitivity (s/cc)		Reported Air Concentration (s/cc)	Reported Filter Density (s/mm²)
787753	P0049-AS01- 032514	Field Sample INDIRECT	0.25	3610.8	1,300	0	NON- DETECTED	0.00040	0.00082	<	0.00040	< 7.68831
787784	P0049-AS02- 032514	Field Sample INDIRECT	0.25	3661.2	52 0.676	3	СН	0.00040	0.00155		0.00466	44.35564

REV 1: 787753: volume corrected + additional grid operatings read to strengthen sensitivity; Rev 2: Total number of structures detected for sample 787753 was corrected as non-detected.

Analyst(s): J. XU & ARY

Reviewed By:

#### "NOTE:

- 1. LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Cracidolite; AN: Anthophyllite; AM: Amosite
- 2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air-Determination of asbestos libers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.
- 3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical bencheheets for details.
- 4. This summary report may not included all information submitted by clients. Furthermore, Batta will not be responsible for results that are due to improper sample collection and inaccurate data provided by clients.
- 5. This summary report precedes all electronic versions of any kinds, including copies in full or in part.
- 6. This summary report does not constitute endorsement by NVLAP and/or any other U.S. government agencies. The test date pertain only to the items tested. No assumptions or conclusions should be made to materials or samples not analyzed.

Dedicated to a Cleaner **Environment Since 1982** 



#### BATTA LABORATORIES, INC.

A Certified MBE Company

Delaware Industrial Park - 6 Garfield Way - Newark, DE 19713-5817 (302) 737-3376 - Fax (302) 737-5764 Web: www.battaenv.com E-mail: battaenv@battaenv.com

#### SAMPLE SUMMARY REPORT

E.P.A. LAB ID# DE004



A.I.H.A./NLLAP #100448

NVLAP #101032

Revision#:

COC#:

2-032714-112056-0053

Batch #:

5281

Test Method: ISO 13794: 1999 (E), Indirect prep

Prep Method: ISO 13794: 1999 (E), Indirect prep

**General Information** BLI Project #: 1 6888G

Project Name: Date Sampled:

Weston Solutions 3/26/2014

Sampled by:

Client

Sampling Location: 0029-0122

Date Received: 3/28/2014

Report Date:

4/2/2014

**Analytical Data** 

Primary Filter Area (mm²): Date Prepped: 3/28/2014

2nd Filter Area (mm²):

Prepped By: JX

Media: MCE Date Analyzed: 4/1-2/2014

Grid Area (mm²): 0.0130 Analyzed By: JX&ARY

	Sample ID and	Prep Inform	ation			Analytic	al Data			Results	
Lab Sample Number	Field Sample Number	Sample QA Type-Prep Type	Dilution Factor	Air Volume (L)	# of Grid Openings  Area Analyzed  (mm²)	Total Number of Structures Detected	Asbestos Mineral Type Detected	Target Sensitivity (s/cc)	Reported Sensitivity (s/cc)	Reported Air Concentration (s/cc)	Reported Filter Density (s/mm²)
787856	P0186-A\$01- 032614	Field Sample INDIRECT	0.25	3826.88	50 0.650	1	СН	0.00040	0.00155	0.00155	15.37662
787857	P0186-AS02- 032614	Field Sample INDIRECT	0.25	3836.25	50 0.650	. 2	СН	0.00040	0.00154	0.00309	30.75325
787858	P0186-A\$03- 032614	Field Sample INDIRECT	0.25	3856.88	50 0.650	1	сн	0.00040	0.00153	0.00153	15.37662
787859	P0187-AS01- 032614	Field Sample INDIRECT	0.25	3670.38	100 1,300	0	NON- DETECTED	0.00040	0.00081	< 0.00081	< 7.68831
787860	P0187-AS02- 032614	Field Sample INDIRECT	0.25	3650,04	1.300	1	сн	0.00040	0.00081	0.00081	7.68831
787881	P0187-A\$03- 032614	Fleid Sample INDIRECT	0.25	3713.4	50 0.650	1	СН	0.00040	0.00159	0.00159	15,37662

REV 1: 787859 & 787860: additional grid openings read to tighten sensitivity. Rev. 2: 1 structure detected for sample 787850 and the analytical dates were revised.

Analyst(s): J. XU & ARY

Reviewed By:



#### "NOTE:

- 1, LA: Libby Amphibole; AC: Actinolite; TR: Tremolite; CH: Chrysotile; CR: Crocidolite; AN: Anthophyllite; AM: Amosite
- 2. Indirect sample prep is based on ISO 13794:1999(E): Ambient air Determination of asbestos fibers-indirect-transfer transmission electron microscopy method. Refer to sample prep sheets for dilution details.
- 3. Some samples may be analyzed and/or prepped by multiple instruments, analysts, or on multiple dates. Please refer to the sample prep sheets and analytical benchsheets for details.
- 4. This summary report may not included all information submitted by clients. Furthermore, Batta will not be responsible for results that are due to improper sample collection and inaccurate data provided by clients.
- 5. This summary report precedes all electronic versions of any kinds, including copies in full or in part.
- 6. This summary report does not constitute endorsement by NVLAP and/or any other U.S. government agencies. The test data pertain only to the items tested. No assumptions or conclusions should be made to materials or samples not analyzed.

## FIELD COC

BATT LABORATORIES, INC

04/10/2014

Page 1 of 1 USEPA

DateShipped: 3/26/2014

RFP# 279

#### CHAIN OF CUSTODY RECORD

Site #: 0029 - 0122 Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-032614-130037-0050

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

La	ıb#	Sample#	Analyses	Matrix	Collected	Sampi e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
- F&	174°S	FB-A-032514	Asbestos PCM (NIOSH 7400) and TEM*(NIOSH 7402)*	Air	3/25/2014	08:15	1	MCE Cassette	None		Liters	N	7:15:00 AM	7:15:00 AM
-	J20	P0005-AS01- 032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	15:00	1	MCE Cassette	None	3722.4	Liters	N	9:00:00 AM	3:00:00 PM
	19	P0005-AS02- 032514	Asbestos PCM (NIOSH 7400) and EM (NIOSH 7402)	Air	3/25/2014	15:00	1	MCE Cassette	None	3803.4	Liters	N	9:00:00 AM	3:00:00 PM
T	125	P0005-AS03- 032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	15:00	1	MCE Cassette	None	3664.8	Liters	N	9:00:00 AM	3:00:00 PM
-	753	P0049-AS01- 032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	16:00	1	MCE Cassette	None	3610.8	Liters	N	10:00:00 AM	4:00:00 PM
-		P0049-AS02- 032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	16:00	1	MCE Cassette	None	3661.2	Liters	N	10:00:00 AM	4:00:00 PM
<i>♦</i>	755	P0049-AS03- 032514	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/25/2014	16:00	1	MCE Cassette	None	3848.4	Liters	N ·	10:00:00 AM	4:00:00 PM
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>	<i>y</i>	- <u> </u>												

Special Instructions: 24 Hour TAT Preliminary Data.	Email results to Carlos.Huertas@WestonSolutions.com,
Joel.Petty@WestonSolutions.com, and S.Sumbaly@	

SAMPLES TRANSFERRED FROM	
CHAIN OF CUSTODY#	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all amples all analyses	Wellety RSTO	3)26/14 1400	Bomi. Mi Bom DESPARES	3)27/1461000	
			were upgraded to ISO 13794 ana		

DateShipped: 3/27/2014

RFP# 279

**CHAIN OF CUSTODY RECORD** 

Site #: 0029 - 0122 Contact Name: Joel Petty Contact Phone: 732-570-4943 No: 2-032714-112056-0053

Cooler #: 1

Lab: Batta Environmental Associates, Inc.

Lab Phone: 302-737-3376

Lab#	Sample#	Analyses	Matrix	Collected	Sampl e Time	Numb Cont	Container	Preservativ e	Volume	Vol Units	Lab QC	Start_Ti me	Stop_Ti me
78785b	P0186-AS01- 032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	15:15	1	MCE Cassette	None	3826.88	Liters	N	9:00:00 AM	3:15:00 PM
1 857	P0186-AS02- 032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	15:15	1	MCE Cassette	None	3836.25	Liters	N	9:00:00 AM	3:15:00 PM
1	P0186-AS03- 032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH7402)	Air	3/26/2014	15:15	1	MCE Cassette	None	3856.88	Liters	N	9:00:00 AM	3:15:00 PM
8-29	P0187-AS01- 032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	16:00	1	MCE Cassette	None	3670.38	Liters	N	10:00:00 AM	4:00:00 PM
850	P0187-AS02- 032614	Asbestos PCM (NIOSH 7400) and TEM (NIOSH 7402)	Air	3/26/2014	16:00	1	MCE Cassette	None	3650.04	Liters	N	10:00:00 AM	4:00:00 PM
V 861	P0187-AS03- 032614	Asbestos PCM (NIOSH 7400) and (IEM (NIOSH 7402)	Air	3/26/2014	16:00	1	MCE Cassette	None	3713.4	Liters	N	10:00:00 AM	4:00:00 PM
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	Most					., .							\
	of filly												\

Special Instructions: 24 Hour TAT Preliminary Data	. Email results to Carlos. Huertas@WestonSolutions.com,
Joel.Petty@WestonSolutions.com, and S.Sumbaly	

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY#

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt			
all sumples all analyse,	GelPetty RST2	3/27/14 1330	Bornie Me: PATTA CABORATORIES	3/28/14@10Zb				
	Samples under lab# 787856 thru 787861 were upgraded to ISO 13794 analysis due to particulate overloading							
				·				

RFP# 279A DATA PACKAGE: TEM ANALYSIS BY ISO 13794:1999(E) - 0029-0122

# Analytical Method, Counting Rules and Data Validation

Note: the analytical method used for this project is ISO 13794:1999(E), which is an indirect method of ISO 10312:1995(E). In order to understand the calculations involved with the indirect method, the calculations involved with the direct method must be understood and calculated first.

Analytical Method: ISO 10312:1995(E) – Determination of Asbestos Fibers-Direct Transfer Transmission Electron Microscopy Method. Additional counting rules apply (see the NADES counting rule summary and SOW that follow).

Fiber Dimension Definition: length  $\geq 0.5 \, \mu \text{m}$ , width  $\geq 5.1$ .

Calculation of Analytical Sensitivity (S) Expressed in Fibers/cc or Structures/cc:

S = 1 Fiber or Structure x Total Effective Filter Area / (No. of Grids Openings Analyzed x Averaged Grid Opening Area x Air Volume in cc).

**Example:** For an air cassette of 385 mm<sup>2</sup> effective area with volume of 3646.8 liters, the analytical sensitivity after 51 grid openings were analyzed with each opening that has an average area of 0.0130 mm<sup>2</sup> is (Field Sample P0006-AS01-030414, Lab# 786567):

S = 1 Structure x 385 mm<sup>2</sup> / ( $\frac{1}{2}$  x 0.0130 mm<sup>2</sup> x 3646.8 liter x 1000 cc/liter) = 0.000159 structure/cc or 0.0002 s/cc

Calculation of Fiber Density (D) Expressed in Fibers/ mm<sup>2</sup> or Structures/ mm<sup>2</sup>

D = No. of Fibers or Structures / (No. of Grids Openings Analyzed x Averaged Grid Opening Area)

**Example:** If 48 structures were found during the above analysis, the fiber density on the filter is:

 $D = 48 \text{ Structures / } (51 \times 0.0130 \text{ mm}^2) = 72.3982 \text{ Structures/mm}^2 \text{ or } 72.4 \text{ s/ mm}^2.$ 

Calculation of Fiber Concentration (C) in the Air Expressed in Structures/cc:

**Example:** For the above analysis, there were 48 asbestos structures detected. The air concentration is:

 $C = 48 \times Analytical Sensitivity = 48 \times 0.000159 \text{ s/cc} = 0.00764 \text{ s/cc} \text{ or } 0.008 \text{ s/cc}$ 

Calculation of Fiber Concentration (C) in the Air Expressed in Structures/cc for the Indirect Transfer Method (i.e. ISO 13794:1999(E)):

**Note:** All samples in this project were prepped and analyzed by an indirect transfer method: ISO 13794:1995(E) – Determination of asbestos fibers - indirect-transfer transmission electron microscopy method.

If an indirect prep is involved as by ISO 13794:1999(E), the analytical sensitivity, the final air concentration and the actual fiber density are calculated by multiplying each calculated from the previous equations with a **conversion factor**, which is calculated by the following:

Conversion Factor = (Secondary Filer Area/Primary Filter Area) / Dilution factor .....4)

For example, the conversion factor of Sample P0006-AS01-030414 (Lab# 786567) is:

Conversion Factor = (346/385)/0.25 = 3.594805 or 3.595

Therefore, for the previous example, the final analytical sensitivity, the air concentration and the filer fiber density after the correction by the above conversion factor are:

Reported Analytical Sensitivity = S (equation 1) x Conversion Factor (equation 4) = 0.000159 x 3.5948 = 0.000572 (s/cc)

Reported Air Concentration = C (equation 3) x Conversion Factor (equation 4) = 0.00764 x 3.5948 = 0.0275 (s/cc)

Reported Fiber Density = D (equation 2) x Conversion Factor (equation 4) =  $72.3982 \times 3.5948 = 260.257 \text{ (s/mm}^2\text{)}$ 

Please note that the results presented above may be slightly different from what were actually reported on the final report due to differences in decimal points used in the calculation.